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A

TREATISE

ON THE

MALFORMATIONS, INJURIES, AND DISEASES

OF THE

RECTUM AND ANUS.

ILLUSTRATED WITH PLATES.

BY

GEORGE BUSHE, M. D.

FORMERLY PROFESSOR OF ANATOMY AND PHYSIOLOGY, ETC.

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TO

DOCTOR JOSEPH SKEY, M. D.,

INSPECTOR OF BRITISH MILITARY HOSPITALS, &c., &c., &c.

DEAR SIR,

WERE I desirous to dedicate this work to one deservedly eminent in his profession, and who, at the same time, is no less remarkable for his scholarship, than scientific attainments, and proficiency in the fine arts, there is none that I could select with more propriety than yourself. But it is not on account of these distinctions, that I have taken the liberty of prefixing your name to this volume,—nor is it to repay past favours; but as a token of regard, inspired by a long observation of your conduct as *Principal Medical Officer*, and by the genuine acts of kindness and charity you were wont invariably to extend to the invalid soldier, widow, and orphan, the humanizing effect of which has ever been warmly lauded and acknowledged by those who, like myself, had the good fortune to serve under you.

Now that, after upwards of thirty years arduous service in war and peace, in various quarters of the globe, you are about to retire, having completed the prescribed term, may you long live to enjoy the esteem of all good men, and reap those advantages which accrue from a highly cultivated mind, genuine benevolence, and a well spent life, is the ardent wish of your obedient and faithful servant,

GEORGE BUSHE.

58 Walker-street,
New-York, December 1st, 1836.

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ADVERTISEMENT.

I SHALL make but few prefatory remarks respecting this work, and these shall be short. Many years ago, I was induced to pay particular attention to the diseases of the rectum and anus, in consequence of their frequency, and the diversity of opinion which prevailed in relation to their nature and treatment. My opportunities for investigating them have been ample, and I may safely say, that I spared neither time, trouble, nor expense, in endeavouring to arrive at just conclusions. In the compilation of my researches, I have aimed at simplicity and conciseness, at the same time that I have been careful to omit nothing of importance. I regret that a few oversights have occurred in correcting the proofs, such as ilius for ileus, pubes for pubis, my for any, and in some instances want of precision in punctuation. For such mistakes I claim the reader's indulgence, which I am sure he will grant me, when I inform him that, this book has been in the press for more than a year, in consequence of my inability, from the pressure of business, and declining health, to correct the proofs, some of which, I have been compelled to trust to others. Finally, I am far from being insensible to still more serious defects in my performance; but, should it go through another edition, and I am spared to superintend it, I shall endeavour to correct them to the best of my abilities, and add any new information I may be able to obtain.

58 Walker-street,
New-York, December 1*st*, 1836.

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CHAPTER I.

ANATOMY OF THE RECTUM.

Name. The last portion of the intestinal canal has been improperly denominated the rectum, for we shall presently see that it is curved.

Form. Cylindrical, except at its lower part, immediately above the external sphincter, where it is considerably dilated and flattened from before backward, constituting what is called its pouch.

Size. Superiorly, it is continuous with the sigmoid flexure of the colon, extending from that part of the psoæ muscles, opposite the inferior border of the body of the last lumbar vertebra, on the left side, to the anus.*

Direction. In the adult, it descends for five or six inches, occasionally undergoing slight lateral inflections, and gradually passing from left to right until it arrives at the median line.† Then, bending obliquely forward and downward for three inches,

* In some rare instances the position of the abdominal viscera is reversed and, in such cases, the rectum would of course commence on the right side.

† When the rectum is greatly distended it forces off the bladder to the right side.

it turns backward and downward for one inch or one inch and a half, thus completing its course.*

Structure. Like the hollow abdominal viscera, it consists of three tunics, viz., peritoneal, muscular, and mucous.

The peritoneum is reflected from the posterior surface of the bladder in the male, and from the upper and back part of the vagina in the female, on the anterior surface of the rectum. In this way a *cul de sac* is formed, bounded by two folds, one on either side, only remarkable when the rectum is empty, and consequently very improperly denominated its posterior ligaments. It then passes off from the sides of the rectum in an oblique direction, extending from behind forward, and from above downward, to the walls of the pelvis. Finally, after having covered the rectum, the laminæ from either side unite and form the meso-rectum, by which it is connected to the sacrum. This process is about four inches in length, continuous with the iliac meso-colon, and gradually becoming narrow, terminates in a point opposite the junction of the third and fourth bones of the sacrum. The hemorrhoidal vessels and nerves, together with loose cellular tissue, are contained between its layers. In some instances it does not exist, the peritoneum passing directly from the posterior and lateral parts of the

* In the fœtus, the greater part of it is lodged in the abdominal cavity, in consequence of the imperfect developement of the pelvis.

rectum to the sacrum; while in others, it is so small as to be obliterated by the distension of this intestine. Thus we see that the peritoneal coat is but partial, covering the rectum anteriorly for five or six, laterally four or five, and posteriorly three or four inches. Such, however, is not always the case, for the distension of the bladder and uterus, as well as the developement of tumours, have a tendency to diminish this tunic. Occasionally, an adipose lamina is deposited beneath it, embracing the anterior and lateral parts of the intestine; but more commonly its free surface is furnished with fatty appendages, opposite the base of the sacrum.

The muscular coat is of a deeper colour, and much more thick and strong than in the other portions of the large intestine. It consists of two layers of fibres, the external being longitudinal, while the internal are circular. The longitudinal fibres are partly prolongations of the three bands from the colon; but, in addition to these, which are of a lighter colour, there are others perfectly independent of such a source, and entirely peculiar to the rectum. Taken together, these fibres are parallel, investing every part of the bowel, but more numerous on its anterior and posterior walls.* They are

* The distribution of the longitudinal fibres in parallel striæ prevents the intestine being thrown into partial pouches, as the colon; however, when its walls collapse, it is marked by transverse depressions, so that equality of surface pertains only to its distended state.

most remarkable in the three upper fourths, being smaller, less apparent, and confounded with the levatores ani, in the inferior fourth, disappearing a few lines above the anus.* The circular fibres are neither particularly strong nor numerous, except near the anus, where they assume a deeper colour, and are so congregated as to form a fleshy flattened ring, from four to ten or more lines wide, and two thick, constituting what is termed the internal sphincter, which has a slight attachment to the central point of the perineum.†

The mucous tunic is more thick and vascular than in any other portion of the large intestine, but does not at all merit the appellation *papillaris*, and scarcely that of *villosa;* for its villosities are

* Dr. Horner, when treating of the anatomy of the rectum, says, "At the anus an arrangement of the muscular coat prevails, which, as far as I know, has not been heretofore attended to by anatomists. The longitudinal fibres having got to the lower margin of the internal sphincter, turn under this margin, between it and the external sphincter, and then ascend upwards for an inch or two in contact with the mucous coat, into which they are finally inserted. This connexion must have obviously much influence in the protrusions of the mucous coat which sometimes take place." Anat. vol. II., p. 36, 37., Phila. 1826. As I have had no opportunity since I read the above in Mr. H.'s treatise, of examining the rectum post-mortem, I am, of course, unwilling to admit his description into my text; yet, as this gentleman's opinion is entitled to every attention, I have thought proper to insert it in the form of a note, so that others may ascertain whether it be corrrect.

† H. Cloquet says, "Les secondes, (the circular fibres) existent presque seules dans son tiers inférieur et prés de l'anus." Traité d'Anatomie, tome ii., p. 351. Paris, 1828. If by this method of speech he means to convey the idea that they are not to be found in the middle third, I must protest against his accuracy, having constantly observed them in the middle third, though pale, sparse and separated by considerable intervals.

very small, and not sufficiently numerous to give a character to this membrane. It contains many mucous follicles, whose mouths are distinct and stand well out, having generally a direction downwards. This membrane is connected with the muscular tunic by lax cellular tissue. Superiorly, it is smooth, and when empty, in consequence of its great amplitude, is thrown into oblique and transverse folds, which, however, do not assume any regular form or arrangement.* Inferiorly, it forms

* Mr. Houston, of Dublin, who is very justly esteemed an excellent practical anatomist, published in 1830, an essay in the fifth volume of the Dublin Hospital Reports, in which he describes a valvular arrangement of the mucous membrane of the rectum. Having for several years had the intention of writing a treatise on the diseases of the rectum, I made repeated examinations of this intestine with great care, but without observing any other condition of the mucous membrane than that described in the text. However, after perusing the essay above alluded to, I again resumed my investigations, which only assured me of the correctness of my previous examinations, though I chose recent subjects, and allowed the intestine to remain *in situ*. I declare nothing can be more remote from my mind than a disposition to cavil; yet I cannot help remarking in this place, that veritable valves, containing muscular fibres too, ought not to be obliterated by the removal of the bowel, and should be found at any period previous to decomposition.

It occurred to me, and I think reasonably, that valves capable of supporting the weight of the fecal matter, ought to be pretty firm, and consequently distinguishable in the living body. I must say, that after the most careful examinations, I have not been able to detect them in a single instance. I have, however, frequently met with accidental folds, produced by the partial contraction of the bowel. A proof that they were accidental is afforded by the fact, that, in the same subject, I have found them on different days to occupy different situations, and in no instance could they have performed the office of valves, being unresisting, and easily displaced by the extremity of the finger.

With all due deference to Mr. H., I would beg to remark, that his misapprehension of this piece of anatomy has arisen from his methods of investigation:—one, by filling the intestine with alcohol, and then opening it; the other,

vertical duplications which contain cellular tissue;* and thus supported, these duplications project forward, so as, according to Morgagni, to merit the appellation of pillars.† They are of variable length,

by inflation and drying. In the first, the accidental folds are rendered permanent by the induration resulting from the action of the alcohol; while in the second, the projections resembling valves are produced by the angles formed by the settling of the intestine during the process of desiccation.

Before I finish this note, I ought to mention that a few other anatomists have spoken of the existence of valves in the lower extremity of the rectum. Thus Morgagni (De Sedibus et Causis Morborum) says he found valves in two subjects, situated about an inch above the anus, in one of a circular, and in the other of a crucial form. Portal says, "Mais on remarque à son extrémité inferieure pres de l'anus, divers replis de sa lame interne, lesquels forment des especes de valvules rangées à peu pres circulairement. Glisson, qui les a reconnues, les nomment les valvules semi-lunaires. La membrane interne qui constitue ces replis se relache et se prolonge quelquefois au point de former un bourlet qui s'oppose à la sortie des excréments." (Anat. Medical.) This is only in keeping with the rest of Portal's anatomical writing, bearing evidence that he did not investigate the subject with his eyes and hands; but preferred associating, as it were, the truths ascertained by some with the glaring blunders committed by others. In the passage quoted, he evidently alludes to the semi-lunar folds described in the text;—but how they can become so relaxed and prolonged as to form *un bourlet*, sufficiently large to oppose the passage of the feces, is beyond all credence. Boyer too has asserted, "Quelquefois, mais rarement, au lieu des replis semi-lunaires dont il vient d'être parlé, on trouve de véritables valvuels qui bouchent en quelque sort l'extrémité inferieure du rectum." (Traité d'Anatomie, tome iv., p. 377. Paris, 1815.) If there be such cases, they must be very uncommon. It is to be regretted that Boyer has been so general and superficial. Is it not reasonable to suppose that the authority of Morgagni led him into error? This is my own opinion, and is derived from the fact of his having touched the matter so lightly, and at the same time quoted the cases from Morgagni.

* I cannot agree with Boyer when he says, "Elles fortifies par quelques fibres charnues." (Op. cit.)

† Some anatomists suppose that these pillars result from the contraction of the extremity of the gut. This, however, is not the case; for, though diminished when the mucous membrane is extended, they are not obliterated.

thicker near the anus, where they terminate in rounded extremities, and are from four to twelve in number. Between these folds there are others, generally not very numerous, but always most remarkable opposite the lower border of the internal sphincter, of a semilunar form, usually transverse, though sometimes oblique, with their free edges turned upward, thus forming narrow, semilunar lacunæ, the orifices of which are directed upwards toward the cavity of the intestine.*

The arteries of the rectum may be divided into

* In 1820 Ribes published a paper, in which he says, "J'ai infructueusement cherché les replis semi-lunaires plus ou moins membreux que l'on a prétendu y exister, et dont le bord flottant est derigé de bas en haut, du côté de la cavité de l'intestin." (Revue Médicale, tome i., p. 180.) In 1826, in another paper, he holds the following language: "J'avais long-temps infructueusement cherché les replis semi-lunaires plus ou moins nombreux que l'on avait dit y exister; dans ces derniers temps, je les ai recontrés sur plusieurs cadavres; j'ai trouvé un sujet qui avait quatre dépressions, et chacune d'elles était garnié d'un petit repli membraneux en forme de valvule mince; sur d'autres individus, je n'en ai observé que trois, ces replis avaient une forme semi-lunaire; le bord flottant était derigé en haut, du côté de la cavité de l'intestine, il était légèrement concave. Le bord adhérent était convexe, derigé en bas, et se trouvait tout-à-fait à la partie inférieure de l'intestin et presque à l'endroit où la peau s'unit à la tunique interne du rectum, de manière que le bord supérieur et flottant était tout au plus à la hauteur de trois ou quatre lignes de la marge de l'anus, ces replis étaient formés par la membrane interne de l'intestine." (Memoirs de la Société Medicale d'émulation de Paris, tome ix., p. 107.) It appears very odd how any anatomist could have experienced so much difficulty in finding these folds. For my own part, I have always been able, in my lectures and dissections, to verify the concise description of Winslow, who says, "Towards the circumference of the inner margin of the anus, they form little bags or semilunar lacunæ, the openings of which are turned upward, toward the cavity of the intestine." (Anatomy by Douglas, vol. ii., p. 194. Edinburgh, 1772.)

three classes. The first or superior are derived from the inferior mesenteric; the second or middle from the hypogastric; and the third or inferior from the internal pudic. After the inferior mesenteric has furnished the left colic and sigmoid arteries, it divides into two branches, called the superior hemorrhoidal. These vessels course along the posterior surface of the rectum, are at first superficial, but soon become concealed in the longitudinal fibres, giving off laterally a great number of branches which anastomose on the anterior surface of the rectum, not only with each other, but also with the middle and inferior hemorrhoidal arteries. The middle hemorrhoidal arteries do not always exist, especially in the male subject, and vary in size, number and origin, being one, two, or three in number, on each side, of a size proportionate to their number; and, instead of arising from the side of the hypogastric, may come off from the ischiatic or internal pudic arteries. They take an oblique course downward, behind the bladder in the male, and the vagina in the female, applied to the rectum, on the anterior surface of which they divide into twigs, anastomosing with the superior and inferior hemorrhoidal arteries. The inferior hemorrhoidal arteries, two or three in number on each side, are given off by the internal pudics after they have re-entered the pelvis. They pass transversely, giving branches to the levatores

ani, and both sphincters, as well as to the cellular, fatty and tegumentary tissues in the anal region; and anastomose with the other hemorrhoidal arteries at the extremity of the rectum.

The veins, which are very tortuous, correspond with the arteries, and terminate in the meseraics and hypogastrics. The former have no valves; collectively, their branches constitute a plexus, termed hemorrhoidal, which is situated at the extremity of the rectum, between the mucous and muscular tunics. Some of the branches of the above plexus pass through the internal sphincter, supplying the cellular and adipose tissues by the side of the rectum, and anastomose with the body of the plexus below the edge of this muscle.

The nerves are derived from two sources, viz. the sciatic and hypogastric plexuses. Those from the sciatic, pass to the lower and posterior part of the rectum, in which course they give off twigs to the hypogastric plexus, and then divide into two sets of branches, viz. the ascending, which proceed towards the sigmoid flexure of the colon, and the descending, which extend to the sphincter ani: the ramifications of both terminate, partly in the mucous, and partly in the muscular tunics. The branches derived from the hypogastric plexus pass forward and downward to be distributed to the rectum and anus.

The absorbents are much more numerous than

is generally supposed; and terminate laterally in the hypogastric, posteriorly in the sacral, and superiorly in the meso-colic and lumbar ganglia.

Relations. 1. That portion of the rectum covered by peritoneum, lies in the hollow of the sacrum, and corresponds, in the male, with the posterior surface of the bladder; in the female, with that of the uterus, as well as a small piece of the vagina, and in both sexes with a fold of the ilium, which is lodged in the intervening *cul de sac.* 2. That part of the intestine destitute of peritoneum, is attached, anteriorly, for about three inches, by cellular tissue, to a small portion of the lower fundus of the bladder, to the vesiculæ seminales, vasa efferentia and prostate gland in the male, and, by a vascular network, to the vagina in the female, thus constituting the recto-vaginal septum.* Laterally it is covered by cellular tissue, tortuous veins, and the levatores ani. Posteriorly, beneath the attachment of the meso-rectum, it corresponds with the lower bone of the sacrum, os coccygis and levatores ani.

The account which we have given of the rectum would be incomplete, were we to omit a description of the anus, and the muscles connected with it.

The anus is a small oval orifice, directed down-

* Some authors have spoken of an interlacing of muscular fibres in this septum; an arrangement which, in the many dissections I have made of these parts, I have never been able to observe.

ward and backward, situated about an inch in front of the extremity of the coccyx, behind the perineum, between the tuberosities of the ischia, and in the median line, at the bottom of the cleft between the buttocks.* It is covered by fine, soft, pliant skin, of a dingy colour, especially in adults, furnished with sebaceous follicles, which secrete an unctuous matter endowed with a peculiar odour, and from whose centre, in the male adult, hairs spring. This integument is plicated by the action of the sphincter ani; ascending a short distance above the verge of the orifice, it gradually assimilates in structure with the mucous membrane, and disappears opposite the inferior border of the internal sphincter.† "L'anatomie de texture démontre, dans le lieu de cette réflexion, un grand développment dans la trame érectile, que je regarde comme le charactère anatomique essentiel de toute muqueuse."‡ In this opinion I entirely coincide with Cruveilhier; and several years ago made many preparations to illustrate it.

* In the male it is situated considerably above the tuberosities of the ischia; but in the female it is much lower down.

† M. Cruveilhier says, "L'épiderme cutané s'y prolonge pour se terminer un peu au-dessus à la manière d'un feston irregulièrement découpé et pour être remplace par l'épiderme muqueux, que j'admets sur l'universalitê des membranes muqueuses." This arrangement I could never observe; and, with all due deference to his opinion, I think M. C. has been led astray by the continuation of the cutaneous epidermis as far as the transverse folds spoken of in p. 15.

‡ Dictionnaire de Med. et de Chirurgie Pratique. Paris, 1829. Art. Anus,

The muscles proper to the anus, are the sphincter and levatores ani. The sphincter ani, to which the term externus is added to distinguish it from the inferior circular fibres of the gut, is a thin, oval, pale muscle, which arises from the tendinous raphé, extending between the os coccygis and rectum. From thence passing downward and forward, it divides into two semi-elliptical bundles of concentric fibres, which are directed outward at an acute angle, expanding, on each side, nearly to the tuberosity of the ischium; then, curving forward and inward, they form the arch of a circle, and unite in front at an angle similar to that at which they parted behind. Thus, they encircle the margin of the anus, and form two commissures, one behind, and the other anterior to this opening, which are rendered firm by the interlacing of the fibres of each side. Extending forward in a pointed manner, the sphincter ani is inserted, in the male, inferiorly, into the tegumentary raphé and superficial fascia; while superiorly, a fasciculus perforates this fascia to be inserted with the transverse and accelleratores urinæ muscles, midway between the anus and bulb of the urethra, into the common central tendinous point of the perineum.* Inferiorly, it is connected with the skin by cellular and adipose tissue; the latter of which, in robust persons, except near the verge of the anus, extends

* Sometimes a small slip passes forward, to be attached to the ejaculator muscle, and is called *musculus lateralis urethræ*.

between its fibres. Superiorly, it corresponds with the internal sphincter and levatores ani, with which it is intimately confounded in the neighbourhood of the rectum, as will be presently described. Its edges are directed downward and outward, and are imbedded in cellular tissue. In women, the anterior extremity of this muscle is shorter and less acute than in the male subject, and is confounded with the sphincter vaginæ.

The levator ani is a thin, flat, and irregularly quadrilateral muscle, broader above than below, and with its fellow of the opposite side forms a concave wall; which, with the ischio-coccygei muscles, closes the inferior outlet of the pelvis, and sustains the posterior portion of the urethra, prostate, vesiculæ seminales, and inferior part of the bladder and rectum.* It arises from the posterior and inferior part of the pubes near the symphysis,† from the aponeurotic arch resulting from the separation of the two layers of the pelvic fascia, and from the spinous process of the ischium.‡ The fibres which come from the

* It has been said to resemble a funnel, the concavity being directed towards the pelvis, and the convexity towards the perineum, with two openings in it inferiorly for the transmission of the rectum and urethra.

† I do not include in this description the muscles of Wilson; the origin of which is separated from that of the levator ani by a few veins, that communicate between the dorsal veins of the penis and those on the side of the neck of the bladder.

‡ Most anatomists have described the levator ani as arising from the ilium over the obturator foramen. This is a great mistake; because the layers of the pelvic fascia separate above the margin of this muscle; one being applied

pubes are fleshy; those from the more anterior part of the arch are thin and tendinous; while the posterior are thick, tendinous and fleshy. The anterior fibres, passing obliquely downwards, backwards and inwards, course along the side of the prostate, to be inserted into the central point of the perineum, and into the fore part of the rectum, mixing with the fibres of the sphincters, as well as with those from the opposite side. The middle fibres are inserted into the side of the rectum above the sphincters, and are confounded with the longitudinal fibres of this intestine. Finally, the posterior fibres, which are more transverse than the rest, are inserted into the side of two or three of the last coccygeal bones, still more forward, into the back part of the rectum, and, with those of the opposite side, into the tendinous raphé, which extends from the extremity of the coccyx to the rectum. This muscle lies between two layers of the pelvic fascia. Its anterior border is directed downward and inward, embracing the prostate, as before described; while its posterior is a little inclined upward, and is parallel to the inferior border of the ischio-coccygeus. In the female it is incorporated with the vagina, is more weak than in the male, and its posterior fibres are less curved.

to its internal, and the other to its external surface. The error must have arisen from cutting away the internal layer of the fascia, and then examining the muscle superficially from its inner surface.

CHAPTER II.

FUNCTIONS OF THE RECTUM.

The feces accumulate slowly in the rectum, and gradually lose their thinner parts by absorption. They do not give rise to any uneasiness until a considerable quantity is amassed, when a sensation is created,* which demands their expulsion.†

* This sensation is supposed by some to result from the contact of the fecal matter with the rectum, but such is not the case; for the feces generally accumulate in large quantities before the sensation alluded to is felt. Some of the advocates of the above opinion assert, that this peculiar feeling is to be referred to the acrimony which the feces obtain by their stay in the rectum. This explanation, however, is not less specious than the former, for the following reasons: 1st. When the feces are fluid, this sensation is produced very soon after their arrival in the gut. 2nd. If the sensation be not complied with, it ceases, and generally does not return until the next accustomed period. And, 3rd. The longer (after the sensation has been once disobeyed) the feces remain in the rectum, the less likely is it to return. In truth, we are ignorant of the cause of this feeling, and must, in the present state of our knowledge, admit that it is organic, and, consequently, depending upon some spontaneous change in the intestine, about which we know nothing.

†Dr. O'Bierne, of Dublin, published, in 1833, a work on defecation, in which he promulgated opinions on the functions of the rectum altogether at variance with those of other physiologists. His object is to prove that the feces do not pass freely from the sigmoid flexure of the colon into the rectum, gradually distending it, as has been generally supposed; but that they accumulate in the sigmoid flexure, and are forced into the rectum immediately before their evacuation. Consequently, that the power of retaining and controlling their discharge does not depend upon the sphincter muscle.

Until this period they are supported by the rectum, which seems curved for this purpose, and

He says, "In the first place, it is universally admitted, and it has been shown, that a design to retard the progress of fecal matter, and to convert the large intestines into a depot for its reception, is obvious throughout the intestinal canal, particularly in the cæcum and colon; and it must be manifest, that if a free communication existed between the sigmoid flexure and the rectum, that design would fail to be accomplished at the point, of all others, at which it was most necessary to have secured its object; for such an arrangement would necessarily expose the rectum to frequent accumulations, and such as, besides interfering with the ordinary functions of the bladder, would subject the sphincter ani to continued irritation, and thus deprive man of the important advantage he enjoys of retaining the alvine contents not only for hours, but for days, without suffering any inconvenience whatever.

"Secondly. The circumstance of nature forming one of her chief depots for excremental matter in a part of the intestinal canal, so close to, and continuous with, the rectum, as the sigmoid flexure is, appears altogether inconsistent with the idea of a free passage between these portions of the canal.

"Thirdly. In the act of receiving an enema, every person is sensible of a considerable degree of opposition to the ascent of the fluid in the rectum. It is well known, also, to those in the habit of administering injections per anum, that, although the syringe may be in the best order, properly filled, and its pipe fairly inserted up the rectum, considerable force is generally required to discharge the fluid, from the resistance given to its passage upwards. These facts would lead us to infer that the rectum, so far from its being open, is firmly contracted and closed.

"Fourthly. Surgeons find it necessary to pass a finger up the rectum, either to direct the course of a catheter, sound, or staff, to discover whether a fistula communicates or not with the bowel; to detect the presence of a calculus in the bladder, or a stricture in the intestine itself; to ascertain the state of the prostate gland; and for various other purposes. And yet it is a fact, that it has exceedingly rarely happened, that, on any of these occasions, the finger has encountered either solid or fluid feces in the rectum, or presented a soiled appearance when withdrawn. Indeed, as far as my experience and inquiries enable me to speak on the point, in the few instances in which such examinations have detected the presence of excrement in the healthy rectum, it has been invariably found in a very small quantity, and never in any but the lowest part, or pouch, of this intestine. It is, also, a fact, familiar to apothecaries and nurses, that the pipe of the injecting syringe, however long it may be, is rarely,

more especially by the permanent contraction of the sphincters, which is perfectly independent of the

if ever, found soiled with fecal matter when withdrawn after administering an enema. These circumstances show that the rectum is contracted and closed so as to prevent free communication between it and the sigmoid flexure.

"Fifthly. Membranous filaments have seldom, if ever, been found traversing in various directions the cavity of either the small intestines, the cæcum, or the colon, while they have often been met with in the rectum. This fact proves that the parietes of the rectum must have been contracted, and its lining membrane in close contact at all points, for a time sufficient to effect the firm organization of these filaments, and consequently that there could have been no communication between this intestine and the sigmoid flexure for, at least, several hours.

"Sixthly. The two sphincter muscles of the anus are considerably weakened in the disease called prolapsus ani. In the operation for fistula in ano, these muscles are completely divided, and thereby wholly incapacitated, for a certain time, from acting as sphinctus. Not only these muscles, but also a part of the rectum above them, are occasionally destroyed by venereal, cancerous, and other ulcerative processes; yet it rarely happens that the power of retaining the alvine contents is found to be at all impaired in any one of these cases. It is therefore manifest that this could not possibly occur if the passage into the rectum were as free as it is supposed to be, or if the power of retaining the feces, and regulating their discharge, depended solely on the sphincter muscles of the anus.

"Seventhly. Seeing the forcible nature of the foregoing facts, and anxious to test the truth of the inferences drawn from them, I have been led to examine the rectum of a number of healthy persons,—healthy at least as far as the bowels were concerned,—at different times in the same day, in order to ascertain its actual state, and as nearly as possible the time and manner in which it is filled. I proceeded in the following manner, and almost invariably obtained the following results. On passing a stomach tube to the height of half an inch up the rectum, neither flatus nor feces escaped through it. Passing it up about an inch and a half higher, it was still found that nothing escaped, but that it could be moved about freely in a space, which, on introducing the finger, was ascertained to be what anatomists call the pouch of the rectum, in a perfectly open and empty state. From the highest part of the pouch to the upper extremity of the bowel, generally a distance of from six or seven to eight inches, it was found that the tube could not be passed upwards without meeting with considerable resistance, and using a degree of force

will. Now, however, by an instinctive effort, the sphincters, particularly the external, contract still

sufficient to mechanically dilate the intestine, which was plainly felt to be contracted so as to leave no cavity for this extent. When the instrument reached in this way, the uppermost point of the rectum, the resistance to its passage upwards was felt to be sensibly increased, until at length, by using a proportionate degree of pressure, it passed forward rapidly, and as if through a ring, more or less tight, into a space in which its extremity could be moved with great freedom; and as instantly a rush of flatus, of fluid feces, or of both, took place through the tube. In some instances, indeed, it happened that neither gaseous nor liquid matter escaped at this moment; but in all these, the distinct feel of the extremity of the tube having entered a solid mass in the flexure, was communicated to the hand. The instrument, on being withdrawn, exhibited a few inches of its upper extremity covered, and its eyes plugged up, with solid excrement. The person generally went to stool soon after, and passed a large quantity of solid feces. In every instance where the tube presented the least appearance of feces after being removed, this appearance was confined to that portion of its upper extremity which had entered the sigmoid flexure.

"In this way I have also examined the rectum of healthy persons in a few minutes after they had passed a stool, and of others at the moment when they felt a moderate inclination to go to stool; and have ascertained that the rectum is in a perfectly empty and contracted state at both these periods.

"The results of these examinations establish the correctness of the inferences drawn from a number of facts, but in a much more positive and precise manner, for they distinctly prove, first, that in the healthy and natural state, all that part of the rectum above its pouch is, at all times, with the single exception of a few minutes previous to evacuation of the bowels, firmly contracted and perfectly empty, at the same time that the pouch itself, and also the sigmoid flexure of the colon, are always more or less open and pervious. Lastly, that the sphincter ani muscles are merely subsidiary agents in retaining the feces."

We shall now examine the correctness of this evidence, so ingeniously brought forward by Dr. O'B. to support his peculiar views; in doing which, we shall reply to his assertions in the order he has made them.

Firstly. It cannot be denied that when the rectum is much distended, particularly in paralytic subjects, it will press more or less on the bladder. But does even this tend to prove that the rectum is not a receptacle for the feces? Dr. O'B. might with as much propriety assert that the uterus is not the organ in which the fœtus is developed, because, when distended, it presses on the bladder.

more, and until voluntarily relaxed, they continue to antagonize the expulsatory effort.

The rectum and bladder, as every one knows, are commonly more or less distended at the same time; and, in such cases, if the feces be fluid, both organs discharge their contents simultaneously; but if solid, and the sensation soliciting their evacuation be urgent, they precede the discharge of the urine;—however, if the sensation be torpid, the urine will be excreted first. These are facts which any one may verify in his own person. As the urine may be evacuated independently of the feces, no mechanical obstacle can prevent its passage; but, as the feces are sometimes discharged before the urine, it becomes necessary to explain the reason. The reader will therefore bear in mind, that no matter how abundant fluid feces may be, they are discharged simultaneously with the urine; consequently the inference is irresistible, that the retention of the urine depends upon the solidity and altered position of the fecal mass. The explanation then is, that when the anus is dilated by the passage of the feces, the prostatic and membranous portions of the urethra are mechanically compressed; first, by feces, and, secondly, by the anterior fibres of the levatores ani, which are thrown into action during the expulsatory nisus. From what has now been said, it appears that as the fecal accumulation must take place above the internal sphincter, and though indeed it may diminish the capacity of the bladder, yet it cannot interfere in any marked degree with the discharge of the urine. This pressure, then, which the bladder suffers from the distension of the rectum, is similar to that which all the hollow viscera experience from the plenitude of adjacent organs. It appears very odd why Dr. O'B. should suppose that irritation of the sphincter is the cause of the sensation which solicits evacuation of the rectum, and we much regret that he did not give us his reasons for this opinion. But, even admitting the position to be correct, his inference is not tenable; because, no matter how great the accumulation may be, the mass never comes in contact with the coverings of the external sphincter, except during evacuation. However, the fact is, that the irritation of the sphincter can have nothing to do in determining the evacuation of the feces, as I have mentioned in the preceding note. If the sensation demanding their expulsion be not complied with, the desire or indeed capability to evacuate them, will not return, perhaps, until the following day, or even a more distant period; though, according to Dr. O'B.'s theory, the sphincter all this time must be in a state of irritation.

Secondly. The assertion that the sigmoid flexure is the chief depot for the feces, is peculiar to Dr. O'B.; and it becomes his duty to establish the fact

The contraction of the muscular fibres of the intestine would be insufficient to effect defecation

before drawing conclusions from it. If his assertion were correct, we would be ready to join him in his conclusion; but the truth is, that there exists a free passage between the sigmoid flexure and the rectum; of which any one can be satisfied by the most superficial observation. Consequently, his inference, though plausibly drawn, is from false premises.

Thirdly. When difficulty occurs in administering enemata in subjects whose large intestines are healthy, it results from improper manipulation or bad instruments. Impressed with the knowledge of the clumsy manner in which both nurses and apothecaries exhibit lavements, I have never neglected in important cases to operate myself; and I now declare, that I never encountered the difficulties set forth by Dr. O'B. Those who are in the habit of injecting their own bowels would be far from testifying in favour of his opinion.

Fourthly. It has constantly and repeatedly occurred to me to find the rectum filled with feces, when making examinations for ascertaining the nature of disease. Dr. O'B. admits that a small quantity may in a few instances may be discovered in the pouch of the rectum. Even admitting that only a small quantity be found in the pouch of the rectum, I should be glad to learn how he has ascertained in these cases that a column of feces does not occupy that portion of the rectum above its pouch.

Fifthly. Can Dr. O'B. point out any case in which the sides of the rectum adhered above the internal sphincter, or that part of the gut admitted by all to be in a state of contraction, in which this intestine did not sustain any unnatural pressure? (1) My reading has not furnished me with such a case.

Sixthly. When the sphincters are divided, paralyzed, or destroyed, the individual is unable to retain his feces, provided they be fluid. This is not a vague assertion; for every surgeon who has followed his calling upon an enlarged scale, has had opportunities of observing its truth; but, when the feces are solid, the patient is much less troubled, being generally able to anticipate the period when they must be expelled, very little passing at each time. This is my own, as well as the experience of those who have removed the extremity of the rectum. The same observation applies to paralysis; but here it may be argued, that the muscular fibres of the rectum are, in consequence of the nature of the disease, in a state of inaction. This I am ready to admit: still such patients retain solid feces until the rectum becomes enormously distended; and even after we scoop and wash them out, we experience

(1.) See the Chapter on Stricture of the Rectum.

without the aid, firstly, of the diaphragm, the contraction of which is followed by the inflation of the

quite as much difficulty in passing tubes into the sigmoid flexure of the colon as in the natural state, and I may, I think, say more, arising from the pouchy and folded condition of the mucous membrane.

Seventhly and lastly. How does Dr. O'B. know that from six to eight inches of the rectum above its pouch was contracted, and that a certain amount of force was necessary to dilate it? Is it not quite as likely that the difficulty he experienced arose from the obstruction offered to the instrument by the collapsed state of the intestine? Whenever I have experienced any difficulty in introducing a tube, I have injected a little of the prepared fluid, and then proceeded with the operation. The resistance which Dr. O'B. speaks of as occurring at the upper extremity of the rectum, is very easily accounted for by the fact, that this intestine, with the sigmoid flexure of the colon, forms a curve, against which the extremity of the instrument strikes. By continued pressure, however, it bends in the direction of the canal. To obviate this, which is not always devoid of danger, I have been in the habit of using very flexible tubes, which certainly would be insufficient to dilate the rectum were it contracted. Here I may remark, that in a case which lately occurred to me, I experienced more difficulty in passing the tube through the sigmoid flexure of the colon than the rectum; both being empty, as was proved by dissection.

Dr. O'B. next endeavours to show, "that the structure and disposition of the parts in question, the sources from which they are supplied with nervous influence, and the nature of the functions they have to perform, are such, that these parts cannot be in any other than the conditions just mentioned.

"While the small intestines can be said to have little more than one muscular coat, and the cæcum and colon but a similar, with the addition of three narrow longitudinal bands, the rectum possesses an internal coat, composed of strong fleshy fibres set closely together, and arranged circularly, and an external, composed of still stronger and more fleshy fibres, arranged longitudinally; also set closely together, and so as to completely surround and cover the internal coat. In addition to these, each of these longitudinal bands of the sigmoid flexure sends down strong fleshy fibres to be expanded upon and intermixed with those of the proper external coat. *It is, therefore, both an anatomical and a physiological fact, that this intestine exceeds every other part of the intestinal canal in the number and strength of its muscular coats, and consequently in muscular power.* Again, this intestine is the only portion of the intestinal canal into which we can trace branches from the regu-

lungs; secondly, of the aretenoid muscles, which close the glottis, and prevent expiration; and,

lar spinal nerves going directly, and without previously interlacing with filaments of the sympathetic, into its substance; for we can not only trace, but plainly see, that the right and left sacral plexus, which consist of nerves of this description, send the hemorhoidal branches in this manner to supply the rectum. *It is also, therefore, both an anatomical and a physiological fact, that this is the only part of the intestinal canal which receives nerves directly from the motific and sensific columns of the spinal marrow; and, consequently, that a much higher order of irritability and sensibility is bestowed upon it, than upon either the small intestines, the cæcum, or the colon, and that it is thus directly subjected to the influence, both healthy and morbid, of that all important organ.*

"Now, when an intestine so supplied with nervous influence, and endowed with such muscular power, is called into strong action, as in the act of expelling its contents, it is quite manifest that the effect will be precisely similar to that which we know to be produced on the œsophagus after an act of deglutition—namely, to contract its parietes so powerfully as to obliterate its cavity; for, whether we regard the number and arrangement of their coats, the sources from which they derive their nervous influence, or, as will soon be apparent, the nature of the respective functions they are destined to perform, perhaps no two parts will be found to resemble each other more than these, the upper and lower extremities of the digestive tube. But anatomy points out, that the extent to which the contraction of the rectum takes place, must be limited to that portion of the intestine above the pouch, in consequence of the middle and posterior divisions of the levator ani muscles being inserted into the lower portion, and continually acting as antagonists to keep the pouch open. It is equally manifest that immediately after the bowels have been sufficiently freed, the rectum, being empty, is in a state of rest, and placed in a situation the least capable of counteracting that contraction of its parietes, which accompanies and follows the last expulsive effort; but I shall now show that a change which the flexure undergoes at the same moment, maintains the rectum in this favourable situation until such time as another evacuation of the bowels is about to take place. This change consists in the inferior and greater portion of the empty flexure falling into the pelvis, hanging doubled over and rather to the left of the rectum, remaining in this situation until it is raised by distension into the place it had previously occupied in the left iliac fossa; and it is scarcely necessary to observe, that the first of these changes of position is one which would effectually prevent the descent of fluid or solid feces,

thirdly, of the abdominal muscles, which act against the diaphragm, so as to compress the viscera

if not flatus, and thus secure the undisturbed condition of the rectum. But as this change in the situation of the sigmoid flexure has not been noticed, it will be necessary to mention the grounds upon which I infer its occcurrence. Here, however, I shall merely mention that whenever the flexure is found empty in the dead body, the above is the situation in which its inferior half is invariably observed; and take leave to refer to the general account, which I shall presently give, of the process of defecation, for reasons in favour of believing that such also must be its situation in the living body, after the bowels have been freed."

We entirely agree with Dr. O'B. that the rectum possesses greater strength, sensibility and irritability than the other intestines; for these are necessary to enable it to perform its functions. Thus, in some instances, when the rectum is impacted with feces, if the muscular coat were not thrown into action, the most powerful efforts of the diaphragm and abdominal muscles would be insufficient to dislodge the fecal mass; while in others, when the intestinal fibres contract energetically and co-operate with the daiphragm and abdominal muscles, large indurated fecal masses, which may have been accumulating for days in the rectum, are forced out with such violence as to lacerate the mucous membrane, and in some rare instances, even the fibres of the sphincter; therefore, we easily see the utility of the greater strength, irritability, and sensibility of the rectum, without having recourse to the reasons assigned for them by Dr. O'B.

Dr. O'B. anxiously draws a comparison between the rectum and œsophagus, and infers that, like the œsophagus, the rectum contracts so as to obliterate its cavity. It would be protracting this note, already too long, to show the dissimilarity of these two organs; however, as pertains to the œsophagus, I should like to learn what evidence Dr. O'B. can adduce to prove that it is contracted in the intervals of deglutition. (1.) Unfortunately for his theory, we have sometimes an opportunity of testing the truth of this assertion in operations on the neck. I have had three such myself, but did not observe that this tube was more contracted than in the dead body. The small intestines have strong muscular fibres, but are these intestines always contracted when empty? It may be asserted that we experience difficulty in passing instruments into the stomach; but, do we not also experience difficulty in passing catheters into the

(1.) Majendie says, "In the upper two thirds of the œsophagus, the relaxation of the circular fibres follows immediately the contraction by which they displaced the alimentary bolus. It is not the same with the inferior third; this remains some moments contracted, after the introduction of the food into the stomach.

and force them backward and downward towards the cavity of the pelvis, causing the perineum to descend.*

healthy methra. Are we not to take into account the spasm excited in the muscular fibres by the presence of the foreign body?

The action which Dr. O'B. ascribes to the levatores ani, with the view of accounting for the pouch of the rectum, is not tenable'; for this pouch does not descend as far, and ascends higher than the attachment of the levatores ani to this intestine.

What he says of the position of the sigmoid flexure of the colon is not peculiar to him, as every anatomist knows; still, I may remark, that the amount of flexure which dips into the pelvis is different in different subjects, and it remains for him to prove, that it is raised into the iliac fossa by distension. (1.) Finally. Dr. O'B. says, "When this occurs," (the distension of the sigmoid flexure, and its ascent from the cavity of the pelvis into the left iliac fossa,) "the flexure, according to the rapidity and degree of its distension, begins to turn upon the contracted rectum as upon a fixed point, until, at length, like the stomach, it directs its greater arch forwards and upwards, and its lesser backwards and downwards. By this movement the contents are brought somewhat perpendicular to, and so as to bear directly upon the upper extremity or annulus of the contracted rectum, but as their weight is insufficient to force a passage downwards, and as this end cannot be accomplished either by such gentle pressure as that exerted by the alternate contraction of the diaphragm and abdominal muscles in ordinary respiration, or by the efforts of the flexure itself, in consequence of its muscular power being so very inferior to that of the rectum, they are compelled to remain stationary, until such time as the increasing accumulation and distension produce a sense of uneasiness sufficient to call into action those great expulsive agents, the diaphragm and abdominal muscles. These muscles, instead of acting alternately, now act simultaneously, compress the abdomen and its contents on all sides, urge the free and floating mass of small intestines downwards, and even into the cavity of the pelvis, so as to press forcibly not only upon the distended sigmoid flexure, but also

* Some are of opinion that the levatores ani, by pressing the rectum forwards and upwards, and thus obliterating its curve, assist in this act.

(1.) A few months since, in examining the body of a lady who died of ilius, in consequence of stricture in the rectum, I found the sigmoid flexure of the colon, which was very much distended with feces, resting in a great measure on the bladder, which contained from half to three quarters of a pint of urine.

The force thus produced being greater than the

upon the cæcum and the urinary bladder. By these means the contents of the distended flexure are acted upon in every direction, and so as to be impelled against the upper extremity or annulus of the contracted rectum, with a force sufficient to compel the parietes of this intestine to separate and afford a free passage. The nisus now ceases, but as soon as the rectum becomes filled, it is roused to make an expulsive effort, by which the whole of its contents are driven and impacted into the pouch. Here their accumulation produces a great sense of weight and uneasiness in the perineum, and urgent desire to go to stool, and a still stronger nisus, by which the sphincters are forced open and dilated, and the final expulsion of the egesta is effected. But the urinary bladder, although it is subjected to considerable pressure during this process, is not evacuated at the same moment, but immediately after, because, during this the last stage of the process of defecation, the accumulation within the pouch and dilated sphincters presses upon the gland, against the arch of the os pubis, and thus effectually prevents the flow of urine, until the accumulation is removed. The evacuation of the rectum and bladder being completed, immediately the nisus ceases, the rectum and the sphincters return to their former state of contraction, the diaphragm re-ascends, carrying with it and restoring to their proper situations, the liver, the stomach, the spleen, the small intestines, the cæcum, and the ascending, transverse and descending portions of the colon. But the inferior portion of the sigmoid flexure is differently situated. Having a remarkably long and free process of peritoneum, and being empty, it is compelled, during the last expulsive nisus, to occupy part of the space which the evacuation of the bladder and rectum leaves in the cavity of the pelvis, and must of necessity remain in this situation, until it becomes again distended; because, as a mere glance will show, the manner in which the peritoneum connects the small and large intestines with the diaphragm is such, that from the descending portion of the colon being bound down to the abdominal parietes, this is the only portion of the intestinal canal which does not follow, and is not in the least influenced by the action of the diaphragm. This is the fact which induced me to assume that the situation of the empty flexure in the living body, is the same as that in which it is uniformly found after death."

All this is very reasonable, admitting the validity of those points which we have endeavoured to controvert.

To conclude, I have extracted every thing from Dr. O'B.'s ingenious and very valuable practical book, that had a bearing on the physiology of the rectum, and offered those objections which occurred to me to be just. But it remains with the reader to judge for himself.

resistance of the sphincters,* the anus is dilated and the contents of the rectum expelled; an act which is facilitated by the secretion of the follicles.

The contraction of the diaphragm and abdominal parieties is so powerful, that it would exercise a baneful influence on the rectum, by causing it to protrude, were it not for the resistance of the levatores ani muscles, which, though small, yet, from their favourable situation, sufficiently antagonize this force.

The anus being narrower than the rectum, the expulsion of the feces is accompanied with more or less difficulty in proportion to their solidity; for, when liquid, the contraction of the gut alone seems to be nearly or altogether sufficient for their evacuation.

After the discharge of the feces, a considerable amount of mucous membrane is displaced by the contraction of the circular fibres of the intestine; but, in proportion as the action of the diaphragm and abdominal muscles ceases, the sphincters begin, and the levatores ani continue to contract, until by their pressure, as well as by the diminution of the mass, in consequence of the return of respiration, the protruded membrane is gradually returned to its ordinary situation.†

* The sphincters, particularly the external, are relaxed to a certain extent by the will, (see page 27;) a circumstance which renders their resistance more easily overcome.

† A fanciful and ingenious Italian physiologist, Bellengeri, entered upon

The frequency of fecal evacuations is uncertain, and depends, in a great measure, upon the quantity and the nature of the food. They occur at shorter intervals in children than in adults, because in the former digestion is more rapid, the secretions more profuse, the contents of the bowels not only more abundant but fluid, and the intestinal sensibility greater than in the latter. They are more rare in females than in males, in so much as the absorbents extract a larger proportion of nutritious matter from the aliment, and the menstrual discharge supplies, in a great degree, the place of intestinal secretions. These evacuations, however, may be said to take place once or twice in twenty-four hours, following some one or two of the meals; instances, nevertheless, are not wanting in which they only occur after days and weeks—indeed, in none of the numerous functions of the body do we find habit more influential than in defecation.

The gases are more easily expelled than fecal matter. Like liquid feces, they can be dislodged by the action of the intestine alone, though the diaphragm and abdominal muscles most commonly

an experimental inquiry into the functions of the spinal marrow; in the course of which he thought he proved that the posterior columns of the spinal marrow gave nerves to the sphincter ani, which endowed it with the power of contraction, while branches from the anterior columns bestowed on it the faculty of relaxation. This is not the place to offer objections to his experiments, or to demonstrate the invalidity of his deductions.

co-operate with the intestinal fibres. Their passage is neither regular nor constant: certain kinds of food are more likely than others to give rise to their formation; and, while there are some persons who seldom or never pass any, there are others, particularly those labouring under bad digestion, who are in the habit of doing so unceasingly.

CHAPTER III.

MALFORMATIONS OF THE RECTUM AND ANUS.

These malformations are far from being uncommon, and as some of them can be remedied, they require to be well understood by the surgeon.*

For practical purposes, they may be arranged as follows:

Imperforation of the anus.	Incomplete.
	Complete.
Imperforation of the Rectum.	By one partition.
	By two partitions.
	By puckering and induration of its walls.

*It would be foreign to the object of this work, to enter into an investigation of the causes which determine these malformations; therefore, those who would be informed on this subject must consult Meekel, Serres and Geoffroy Saint-Hilaire. Here, however, I may observe, firstly, that the colon and rectum are gradually elongated by successive accretions, until they gain their proper length, secondly, that the anus is closed for a long time by a dense thick membrane, and, thirdly, that the vagina, urethra, bladder and rectum are confounded in the earlier periods of feotal life; consequently, that a cessation of growth would cause the rectum to be more or less imperfect, the anus imperforate, or an occasional opening to exist between the rectum and genito-urinary organs. I may add that, according to Serres, these malformations depend upon the imperfection or absence of the hemorrhoidal arteries.

Unnatural termination of the Rectum.
- In the bladder or urethra.
- In the vagina.
- In the sacral region.
- In two extremities.
- In a cloaca with the vagina and urethra.

Termination of other organs in the rectum.
- Of the ureters.
- Of the vagina.

Absence of the rectum.

Imperforation of the anus.

Incomplete. This species of malformation consists either in an extension of skin over the border of the sphincter ani, or in a contraction of the extremity of the rectum.*

Complete. This is a much more common form of anomaly than that which has just been described, and is produced by a lamina of fibro-cellular tissue, surrounded by more or less puckering of the adjoining skin.† In most cases this membrane is so thin

* Scultetus relates a case in which the opening was so small, that a probe about the size of the head of an ordinary pin could not be introduced. (Armamentarium Chirurgicum, obs. 77. Ulmæ. 1653. fol.) Roonhuysen mentions a similar case, in which the mother was compelled to extract the stercoraceous matter daily; a task which she accomplished with great difficulty, in consequence of the extreme smallness of the orifice.

† Some authors have described the membrane shutting up the anus as "fine skin," but in the cases I have examined in several cabinets, it did not resemble skin in any one instance.

and transparent, that when the infant strains, the meconium forces it downward, thus constituting a dusky, fluctuating tumor. However, in some rare instances, it is thick, hard and unyielding, particularly at the circumference; for, in the centre, it is almost invariably so thin, that the meconium can be seen through it.*

Imperforation of the Rectum.

By one partition. The situation of this partition varies from two lines, to an inch or more above the anus. In the majority of cases, it is thin, and transparent, though occasionally thick and hard. The anus is always well formed, but we are soon apprized of the nature of the case, by the retention of the meconium, by the inability of the nurse to throw

*Many authors have described cases of this kind, among whom we may mention; Fabricius ab Aquapendente, (Opera chirurgica, part I. cap. 88. Patav. 1617. fol. He says, "*Etsi ani locus pellicula obductus est tamen orificii vestigium, et tangentibus persentitur vacuum intus.*") Fabricius Hildanus, (Observationum et curationum chiurgicarum centur. I. obs. 73. p. 54. Basil, 1606. fol.) Van Meeckern, (Observationes medico-chiurgicæ cap. 24. p. 114. Amstelod. 1682, 8vo.) Saviard, (Nouveau recueil d'observations chiurgicales, obs. 3. p. 8. Paris, 1702, 8vo.) Littre, (Hist. de l' Acad. des Sciences, p. 47. an. 1710.) Wagner, (Commer. litterar. Norimberg. p. 364. an. 1735.) Motais, (Memoir de l' Acad. des Sciences, p. 579. an. 1771.) Simmons, (Medical Facts and Observations, vol. i., p. 102. London, 1810.) Dr. George Tobie Durr, a physician of Augsbourg, related a case in which the membrane that closed the anus was prolonged forwards to the anterior part of the perinæum, where was a small hole, through which the meconium drained off. (Miscellanea curiosa sive ephem. acad. natur. curiosor. decur. II. an. VI. obs. 62. p. 3. 1668.)

up injections, and by examination with the extremity of the little finger.*

By two partitions. The situation as well as the structure of these partitions may vary. I once saw a case of this kind in a new born child brought into the dissecting room. The upper part of the rectum was loaded with meconium, the partitions were thin and friable, being about three quarters of an inch apart, while the lowermost was nearly half an inch from the anus.†

By puckering and induration of its walls. This species of anomaly must be very rare, as I have never seen a specimen illustrating it, and the only case I have met with in the course of my reading, is that which occurred to Engerran. In this instance, so great was the induration and puckering, that it presented the appearance of a knob, or knot in the intestine.‡

* Instances of this aberration have occurred to Bonn, (Papendorp, Dissertatio sistens observationes de ano infantum imperferato, p. 253. Lugd. Batav. 1781, 4to.) Petit, (Mem. de l' Acad. de Chirurgie, tome ii., p. 250. Paris, 1781.) Saviard, (Op. cit. obs., 3.) Grimaud, (Journal Generale de Med., tome xxiv. p. 238.) Wayte, (Edinburgh Med. and Surg. Journal, vol. xvii., p. 232. 1821.) Troussel Delvincourt, (Journal de Med. par Beclard, tome xiii., p. 3.) Dupuytren, (Journal Hebdom. de Med., tome ii., p. 421. 1829.) Colson, (ibid, tome ii., p. 150. 1829.) Fourcade, (Revue Medicale, tome iv., p. 52. 1830.) Cruveilhier, (ibid. tome ii., p. 422. 1833.)

† Jessen witnessed the case of a female infant whose anus was well formed, but when the finger was introduced into this opening, which was narrow, obliteration of the rectum was discovered. On examination after death, he found that, "*Rectum intestinum bis lateribus concreverat, bis orbiculari intersepiebatur membrana.*" Schenckius, (Observat. medicinal, de int. recto, obs. vi. lib. iii, p. 384.)

‡ Mem. de l' Acad. de Chirurg , tome ii., p. 253, 4, 5. Ed. cit

UNNATURAL TERMINATIONS OF THE RECTUM.

In the bladder or urethra. When the rectum terminates in the urinary organs, it opens either obliquely between the ureters into the neck of the bladder, or into the posterior part of the urethra. It generally tapers down very considerably before it arrives at its destination; though, in some few instances, (one of which I have seen,) it terminates *cæco fine*, about half an inch above which, a narrow tube passes off anteriorly to communicate with the bladder or urethra. In either case the recto-vesical orifice is so small, that only the thinner part of the meconium can be evacuated; and thus it is, that the unfortunate infant generally dies within a week from its birth.*

* Bertin asserted that this malformation was constantly a cause of death. (Mem. de l' Acad. des Scienc. p. 496. 1771.) In this, however, he was mistaken; for many cases are recorded of children so mis-shapen, who lived for months and years. Fortunatus Licetus mentions a woman who voided her feces through the urethra. (De monstorum causis, natura et differentiis lib. ii. cap. liii. Patav. 1616. 4to.) Flajani relates the case of an infant in whom about three inches of the rectum was wanting, the intestine terminating in a canal four inches in length, which passed under the prostate gland, and opened into the membranous portion of the urethra. The stercoraceous matter of course was voided with great difficulty by the urethra, nevertheless the miserable babe lived eight months, and then only died in consequence of having swallowed a cherry-stone, which lodged in the recto-urethral canal. (Osservazioni di Chirurgia, tome iv. obs. 39.) Bravais records the case of a boy, four and a half years old, in whom the rectum, after becoming very narrow, opened into and appeared continuous with the urethra. (Actes de Lyon, tome ii. p. 97.) Finally, Poulletier observed a similar case in a boy three years old. (Dictionnaire de Scienc. Med. tome iv. p. 157.)

When the opening is vesical, the meconium and the urine are mixed; but, when urethral, a small jet of meconium generally precedes the passage of the urine.

This malformation is much more common in males, and from the length, narrowness, and curvature of the urethra, is much more dangerous than in females. It is often accompanied with imperfect developement of the genito-urinary organs, especially, with imperforation of prepuce and urethra.*

Though rarely, the anus sometimes exists in these cases, and permits the entrance of a probe for a few lines.†

* Desgenettes relates a case combined with occlusion of the mouth. (Gazette Salutaire.)

† Besides the authors just cited, many others have noticed such cases, among whom may be mentioned: Fabricius Hildanus, (Op. cit. centur. I. obs. 75.) Sanden, (Miscellanea curiosa sive ephemer. acad. natur. curiosor. decur. II. an. IX. X. obs. 194. p. 364. 1706.) Wrisberg, (De Prœternaturali et rara intestini recti cum lotii vesica coalitu et independente ani defectu,—Comment, Societat, Reg. Scientiar. Gottingens. tome i. p. 1.) Morand, (Memoir de l' Acad. des Scienc. p. 50. 1755.) Pierre Borel, (Historiarum et Observationum Medico Physicarum. centur. I. obs. 77. Paris, 1657.) Kaltschmeid, (Dissertatio de raro casu ubi intestin. rectum in vesca urin. insertum fuit. Jena, 1756.) Boirie, (Hist. de l' Acad. des Scienc. p. 50.) Monclat and Clément, (Nouv. Biblioth. Med. tome ii. p. 99.) Dumas, (Journal Generale de Med. tome iii. p. 46.) Hasselmann, (De ani intestinorumque atresia. Utricht, 1819.) Vrolik, (Mem. sur quelques sujets d' Anat. et de Phys. p. 22. Amsterdam, 1822.) In this case there was extraversion of the bladder. Delesalle, (Bullet. de la Soc. Med. d'Emul. Juin, 1824.) Cavenne, (Archives Generales de Med. tome v. p. 63. 1824.) Willaume, (Ibid. tome ix. p. 507. 1826.) Bonnet, (Ibid. tom. xx. p. 576. 1829.) Miller, (Edinburgh Med. and Surg. Journal, Jan. 1829.) Roux Brignoles, (Memoires de l' Acad. Royale de Medicine, tome iv. p. 183. Paris, 1835.)

In the vagina. The rectum may open into any portion of the posterior or lateral walls of the vagina. The orifice in this case is much larger than in the last malformation, which, together with the greater width and straightness of the vagina, renders it far less fatal.* However, the mucous membrane becomes more or less excoriated, ulcerated, indurated and fungated, in almost every case, and abscesses form in the adjacent cellular tissue. As in the last lusus, there may be an external opening in the natural site of the anus.†

* Fournier was called to consult on the case of a woman, who had been five days in labour; on examination, he found that there was no trace of the anus in its natural position; that the rectum was filled with feces, compressing the uterus; and, that the anus, which was large, and without a sphincter, opened into the vagina. An injection was administered, the feces were evacuated, and the *accouchement* terminated safely. (Dict. de Scienc. Med., tome iv. p. 155-6.) Cook, when attending a female nearly forty years of age, in parturition, perceived a congenital communication between the vagina, and the rectum, capable of admitting two fingers. (Translation of Morgagni, vol. ii. p. 125. London, 1822.) Ricord relates the case of a woman twenty-two years of age, in whom the rectum terminated in the lower and back part of the vagina, by an orifice which permitted the introduction of the finger without pain. She had perfect control over the evacuation of the feces, though gas often escaped involuntarily. (Journal Universale et Hebdomadaire de Medicine &c., tome xii. p.) 167-8. October, 1833.

† Besides the authors already mentioned, who have reported cases of this kind, we may, among others, enumerate the following: Mercuriale, (De Morb. pueror. L. i.) Morgagni, (De causes et sedibus morborum, epist. xxxii. art. 3.) Haesbart, (Miscellanea curiosa sive ephem. acad. natur. curiosor. decur. ii. an. x. obs. 75. p. 132. 1691.) Jessieu, (Hist. de l' Acad. des Scienc. p. 42. 1719.) Benivenius, (De abditis nonn. ac mirandis morb. causis, cap. 86.) Van Swieten, (Commentar. in Boerhave Aphorism. lib. iv. Alphorism, 1340. p. 575.) Kirsten, (Act. nat. cur., lib. ix. obs. xi. p. 24.) Bonn., (Papendorp. Op. cit.) Rochard, (Journal de Med. Chir. Pharm., tome lxxxv. p. 370.)

In the sacral region. A portion of the sacrum may be so deficient as to permit the extremity of the rectum to pass through it, and open externally. The only case of this kind, with which I am acquainted, is recorded by La Faye.*

In two extremities. About four years ago, Dr. William Power very kindly allowed me to examine a fine healthy child, a few days old, in whom the rectum terminated by two extremities, one being placed a little more anterior than natural, while the other, though also on the median line, was situated nearly an inch further back. This last, which was the smaller of the two, did not discharge more than one third of the feces, and, as nearly as I could ascertain with a probe, was about one inch and a half in length.

Termination of other organs in the Rectum.

Of the ureters. Cases of this kind are exceedingly rare, and when they do occur, the ureters generally enter a short distance below the line of reflection of the peritoneum.† Most commonly other malformations exist at the same time; among which, absence of the urethra in the female is the most frequent.

Of the vagina. This is also a very uncommon anomaly. When present, the urethra generally

* Principes de Chiurgie, p. 358. Paris, 1811.

† Obertcufer, (Neues Archiv. de Stark. tome ii.)

occupies its natural situation; the menstrual discharge issues from the anus, and impregnation, nay even parturition, has been safely effected in such cases, through this orifice, which will be enlarged by more or less laceration of the perineum.*

In a cloaca with the urethra, and vagina. It may so happen that the vagina, urethra and rectum, terminate together in the perineum; thus constituting a species of common vestibule or cloaca, similar to that of the annotrêmes, and of a great number of other animals. Saviard observed an anomaly of this kind, in a new born infant, which, as far as I know, is the only one on record.†

Absence of the Rectum.

The absence of a portion is much more common than that of the entire rectum; which, in such cases terminates in a cul-de-sac at a greater or less distance from the surface.

When this intestine is completely wanting, the

*Louis, in his celebrated thesis, proves not only the possibility of conception, but of a successful accouchement in such cases. (De partuim externarum generationi inserventium in mulierbibus, naturali, vitiosâ, et morbosâ dispositione. Theses Anatomicæ Chirurgicæ. Paris, 1753.) Barbaut, (Cours d' Accouchemens. tome ii. p. 59.) Rossi, (Hist. de la Soc. de Med. de Montpellier, tome i. p. 39.) Portal, (Precis de la Chirurgie Pratique, tome ii. p. 745.,) Richter and several other authors, have related similar cases.

†(Observ. de Chirurg. p. 308.) Martin observed a case in a full grown bitch. (Ann. de Soc. Natur., tome xii.) Hartman relates a lusus of this kind in a heifer, (Miscellanea curiosa sive ephem. acad. natur. curiosor. decur ii. ann. vii. et viii. p. 59.)

extremity of the colon either floats in the abdominal cavity, hangs into the pelvis, or is bound down to the top of the sacrum. In some instances a fleshy, legamentous, or fatty cord is attached to the culde-sac of the colon, or portion of the rectum, that may be present, and passes downwards, following the direction of the sacrum, to be blended, in many instances, with the cellular tissue behind the prostate and neck of the bladder.*

A preternatural anus may exist, and then it will occupy some situation in the face, neck, thorax, or abdomen.†

* The following are some of the authors who have related cases of this kind: Estero, (Instit. Chirurg. tome ii., sect. v. cap. 163. No. 1.) Binninger, (Observ. Med. centur. ii. obs. 61. p. 222.) Wagner, (Op. cit. ann. 1734.) Adrian, (Ruysch Advers. Anat., dec. ii. p. 43.) Henkel, (Mem. Med. Chirurg. Amnerkungen II. 1772.) Bonn, (Papendorp, Op. cit.) Oosterdyk, (ibid. l. c., p. 254.) Schultz, (Miscellanea curiosa sive ephem. acad. natur. curiosor. ann. iii. dec. i. obs. ii. p. 5.) Ludovici, (ibid. ann. iii. dec. i. obs. 257.) Beauregard, (Bacher Journal de Med., p. 90. Jan. 1786.) Huber, (Acta physico-medica. tome viii. obs. 24. p. 64.) Matani, (Orteschi Giornal de Med. tome iii. p. 250.) Saviard, (Op. cit. p. 8.) Troien, (Obs. Medic. Chirurg., p. 66.) Petit, (Op. cit. p. 379, 380.) Morgagni, (Op. cit.) Giering, (Sel. Med. Francof. tome iv. p. 137.) Fitteau, (Sedillot Rec. per. tome ii. p. 101.) Cervenon, (ibid. p. 36.) Jameison, (Edin. Med. Essays, vol. iv. art. 32. p. 354.)

† Mery mentions a case in which the colon opened at the umbilicus, the rectum being absent. (Hist. de l' Acad. des Scienc. p. 40. 1700.) Littre records another, in which the ilium terminated above the pubis. (Mem. de l' Acad. des Scienc. p. 9. 1709.) Petit has described a case in which the ilium opened at the left side of the bas-ventre, and thus formed an anus. (Ibid. p. 89. 1716.) Dinmore mentions a remarkable case of an infant in whom the inferior portion of the abdomen was badly developed, while the intestine turned upwards, and opened under the border of the right scapula. A still more

When the rectum is either partially or totally wanting, the pelvis is generally contracted.*

In some instances, the anus is well formed, and permits the entrance of a sound for a few lines;† but, generally, there is no trace of this opening, the skin being thick, hard, and, in the majority of cases, supported by muscle.

From the retention of the contents of the intestines caused by any of the malformations now mentioned, there arises great pain, as manifested by pitiful cries—abdominal enlargement with tension and shining of the integuments—discolouration and swelling of the face—inflation of the scrotum and penis—difficult and irregular respiration‡—frequency, smallness and irregularity of the pulse—vomiting—straining to stool—hiccup—coldness with flexion of the extremities, and convulsions.

In some instances the colon bursts, and its contents are poured into the peritoneal cavity.§

extraordinary case is related by Bils, in which the intestine mounted from the pelvis, through the chest, into the neck, and opened on the face by a very small orifice. (Specimen Anat. Rotterdam. p. 10. 1661.)

* Leville, (Dessault Journal de Chirurg. tome iv.) Meckel, (Reils Archives, b. 9. h. 1.)

† Martin, (Mem. de Societ. de Sante de Lyon, tome i. p. 185.) Bonn, (Papendorp, op. cit.)

‡ This state of respiration is caused partly by the pain resulting from the descent of the diaphragm on the inflamed intestines, and partly by the increased size of the abdomen.

§ Fourcade relates a case of this kind, (Revue Medicale, 1830. tome vi. p. 52.

The majority of these malformations are fatal.* When there is no outlet, death soon occurs; but in those instances in which there exists a small opening, even into another organ, this event takes place more slowly. On dissection, the intestines are found distended with gas and feces, and are highly inflamed. In some cases, however, surgical aid not only prolongs, but saves life. These we shall now consider.

When incomplete imperforation of the anus is caused by a prolongation of skin, the superabundant integument ought to be divided in two or more points, and meshes of lint, or gum elastic bougies, besmeared with simple ointment, then introduced, renewed daily, increased successively in volume, and continued for months. If, however, the extremity of the intestine be merely contracted, it will seldom be necessary to have recourse to the knife.†

* There are examples, however, of life having been prolonged where there was no anus. Baux saw a girl, 14 years of age, without genital, urinary or anal opening; who, after having suffered from a dull pain in the umbilical region, would void, every two or three hours, excrementitious matter from the mouth, and many times in the course of the day, urine from her breasts. (Vandermonde Rec. per.)

Bartholin saw a man, 40 years old, without anus or verge; in whom the urine was discharged from the umbilicus, and the feces from the mouth by means of a horn. (Hist. Anat., cent. 1. obs. 65. p. 113.)

† In the case mentioned by Scultetus, (see page 38,) the parents refused to allow him to use the knife, yet he obtained the desired end, by the introduction of gentian root soaked in oil. In the case related by Roonhuysen, the orifice became so contracted that nothing more could pass; the belly swelled; the

The complete imperforation of the anus is also very curable. The membrane which shuts up the extremity of the intestine, should be divided crucially with a sharp pointed straight bistoury, and the angles of the flaps thus formed, removed with a forceps and curved scissors; after which, meshes of lint besmeared with cerate, or gum bougies, ought to be introduced daily, as described when treating of the incomplete form of this malformation.

When the membrane covering the extremity of the intestine is prolonged forward to the perineum, where is a small hole through which the thinner part of the feces drain off, it should be first divided from before backwards, with a probe pointed bistoury introduced into the foramen, and the rest of the operation then conducted as above described.*

If the imperforation of the rectum be produced by a fine membrane, we may be able to break it down with the extremity of the little finger; but if it be hard, we ought, provided we feel the fluctuation of meconium, to pierce it with a trochar, and then dilate the opening thus formed, with

pain was dreadful, and the fever excessive. The skin which surrounded the anus was first divided, and the opening then dilated with a tent of charpie. The feces by this operation were immediately discharged, and the infant soon recovered.

* In the case related by Durr, and mentioned in note to page 39, he performed the operation of slitting up the membrane, two months after the birth of the infant. The feces were discharged in great abundance, and the cure was complete.

sponge tents, meshes of anointed lint, or gum elastic tubes, kept continually introduced. This operation will give momentary relief, but it is to be feared that the opening will be always too straight.*

When the rectum opens into the bladder, or urethra, and death threatens, it becomes the surgeon's duty to dissect for the extremity of the intestine, and should he fail in finding it, he ought then to make an opening into the colon; but to open the neck of the bladder, as has been recommended by Martin, and practised by Cavenne,† would be highly improper; for, although in this way a free egress can be established for the feces which may have passed into the bladder, yet, the recto-vesical orifice will in all probability continue untouched, and consequently the great source of danger still exist. Even though the opening be urethral, and is divided in passing the knife into the bladder, the operation will prove unavailing, first, because the division must be in the direction of the rectal canal, secondly, because it must be limited to a small extent, and thirdly, because in these cases, as before mentioned at p. 41, the rectum becomes narrow before it enters into the bladder or urethra.

When the rectum opens into the vagina or vulva,

*Petit divided a membrane which stood across the rectum, about an inch from its extremity, with a *pharyngotome*, which he glided along his finger. The feces were immediately discharged, and for two months during which the child lived, there was no obstruction. (Op. cit. p. 251.)

† Archives Generales de Med. tome v. p. 63. Mai, 1824.

it is my opinion that if the feces can be easily discharged, it ought not to be interfered with; yet some think otherwise. Thus, when the opening is vaginal, Vicq d'Azyr recommended the division of the posterior wall of the vagina, below the opening, and also as much of the subjacent tissues as would admit the introduction of a canula. Martin improved upon this operation in advising the flaps of the vagina to be united in front of the canula by points of suture; and more recently Velpeau has proposed facilitating its performance, first, by introducing a blunt hook into the *cul de sac* of the rectum, and then rendering its extremity prominent in the perineum, secondly, by dividing the parts covering the extremity of the hook, and thirdly, by passing the tube into the opening thus formed.* If we perform this operation, Velpeau's method is certainly preferable, when practicable; which can only be when a *cul de sac* exists; for the intestine tapers down very considerably in some cases before it enters. Breschet has proposed the same operation as Vicq d'Azyr, when the opening is in the *fourchette*.

After these operations, the new canal, being nothing more than a fistula, will always be liable to contract, and must, at best, perform its office very imperfectly.

When the rectum opens through the sacrum; when it bifurcates, or when there is a common open-

* Med. Operat. tome iii. p. 979. Paris, 1832.

ing for the urethra, vagina and rectum, surgery can afford no aid.

When the rectum is partially absent, which cannot be told *a priori,* an anus ought to be made, if possible, in the natural situation. The little patient being held in the lap of an assistant, with the knees bent, and the buttocks thrown forward, the surgeon should make an incision of about eight or ten lines, from before backwards, in the accustomed situation of the anus. If, in the course of the dissection, he discovers the sphincter or the levatores ani muscles, he should separate their fibres carefully,* and prosecute the dissection nearly in the axis of the body, or almost perpendicularly, cutting from before backwards, to avoid wounding the bladder; at the same time he should be careful not to get behind the rectum,—a mistake which has sometimes occurred during the dissection. The blood ought to be well sponged out, and the fore-finger of the left hand repeatedly used to seek for the rectum. If after dissecting two inches, or at most two and a half inches deep, the intestine cannot be detected, the operation ought to be abandoned; but, if the bowel be discovered by its blackness and fluctuation, either a trochar, or, what is better, a bistoury, should be forced into it, and the meconium evacuated. The opening thus formed should

* There is much more difficulty in separating and distinguishing the muscular fibres, than one would suppose from perusing the essay of Roux à Brignoles. (Op. cit.)

be maintained by tents of prepared sponge, meshes of lint besmeared with cerate, or gum elastic tubes, kept continually introduced. The operation ought to be conducted with as much despatch as is compatible with safety, for pain never fails to prostrate babes. Most surgeons who have performed such operations have been unsuccessful; thus, Petit mentions three fatal cases, death having occurred within a few hours, in one from convulsions, and in another from exhaustion.* However, other surgeons have succeeded; among whom we may mention, Roux-Brignoles,† and Sanson.‡

Should the little patient recover from the operation, his comfort will afterwards depend, first, upon there being a sphincter, and the opening having been made through it, and secondly, upon the proximity of the rectum to the skin. If there be no sphincter, he must be miserable indeed; and should the space between the rectum and the skin be great, he will labour under an affliction not to be endured.

It is only when the rectum cannot be found, that we are justified in opening the sigmoid flexure of the colon. This cruel operation was first proposed by Littre,§ from the examination of an infant six days

*(Op. cit. p. 237—246.)

†(Op. cit.)

‡Archives Generales de Med. serie ii. tome v. Juilliet, 1831. 471.

§Histoire de l' Acad. des Seiences de Paris, annee 1710.

old, in whom the anus was imperforate, and the rectum divided into two parts. When, therefore, we cannot find the extremity of the rectum after a careful dissection of the perineum, we should proceed to open the colon in the following manner: The infant being extended on a soft pillow, an incision of the skin, subjacent, cellular tissue, and fascia, should be made from one to two inches in length, between the anterior and superior spinous processes of the ilium, and the pubis, situated a little above Poupart's ligament. The different layers of the abdominal parietes ought then to be divided successively with a bistoury on a director, until the operator arrives at the peritoneum, which should be pinched up, and divided to the same extent as the external parts. By this last section, the intestine will be exposed, bearing a dark colour, and greatly distended with meconium. The left fore-finger ought now to be introduced so as to bring the bowel as far outward as possible, while with the right hand, a large, soft ligature, should be carried through its mesentery by means of a curved silver needle. This being accomplished, a longitudinal incision should be made into the intestine, and the meconium evacuated; after which a mesh of anointed lint ought to be carefully introduced, so as to prevent the adhesion of the lips of the wound. Finally, each end of the ligature should be sosecured, on either side of the abdominal wounds, as

to maintain the parietal and intestinal openings *in situ*. If the child survives, the ligature may be removed on the fourth day, as by that time the intestine will be firmly consolidated with the wound of the abdominal parietes.*

Callisen has, in preference to the operation of Littre, proposed opening the cæcum, or descending colon in the lumbar region, by an incision in the course of the border of the quadratus lumborum muscle, by which the peritoneum is left untouched.† This operation has never been performed but once, then by Roux, and in this case the child died in two hours.

Dubois first gave the idea, afterwards carried into effect by Martin, of opening the sigmoid flexure of the colon, and then passing a sound through it towards the perineum, so as, if possible, to render it salient, and thus create a certain mark for our inci-

* Dessault performed this operation on a child 48 hours after birth, but it was fatal. (Journal de Chirurg. tome iv. p. 248.) In 1783, Dubois operated on a child three days old, death however occurred ten days afterwards. (Recueil Periodique de la Societé de Med. tome iii. p. 125.) Duret, a naval surgeon at Brest, successfully operated on a child three days old. In this case the vomiting ceased immediately; the thread supporting the bowel was removed on the fifth day; on the sixth the opening was partially closed by the extrusion of the bowel, and on the seventh the infant was cured. (Ibid. tome iv. p. 45.)

† Systema Chirurgie. Hodiernæ. vol. ii. p. 812. Hafniræ, 1817. His words are: "Quæ proposita sut hoc rerum statu fuit incisio intestini cœci vel colidescendentis, sectione in regione lumbari sinistra ad marginem musculi quadrati lumborum facta, ut anus pareter artificialis, remedium praebet omnino incertum, atque hac operatione vix vita miselli servari potent. Quanquam intestinum in hoc loco facilius attingatur, quam supra regionem inguinalem.

sions in the perineum.* It is to be hoped that no surgeon at the present day would be so cruel, as to subject an infant to this double operation, however ingenious and imposing it may appear at first sight.

* He used a trochar for puncturing. Velpeau has recommended a *sonde à dard.* (Op. cit. tome iii. p. 985.)

CHAPTER IV.

FOREIGN BODIES IN THE RECTUM.

The foreign bodies frequently found in the rectum may be divided into two classes, viz: Those which are generated in consequence of diseased action of the digestive organs, and those which are either swallowed or introduced through the anus. The former embrace biliary, intestinal and fecal concretions; while the latter include pins, nails, fruit stones, coins, small bones, &c., taken in by the mouth; or pieces of wood, cork, meat, bone, horn, ivory and metal, pots, cups, bottles, ferrules, rings and the like, forced into the anus, either completely or incompletely, sometimes by the individual himself, with a view to obviate costiveness, or in consequence of a perverted imagination; but more commonly by wicked persons, who generally take advantage of the inebriated state of their intended victim.*

* This list of foreign bodies may at first sight appear very odd, but every article mentioned has, according to the testimony of the best authors, been extracted from the rectum.

Unless the body be either of a large size or unfavourable form, viz. spiculated, oblong, pyramidal, the base being turned downwards, &c., it will be discharged with the feces. If, however, in consequence of the conditions just alluded to, it is retained, fecal evacuation will be prevented, and enteritis induced; but before this sad termination can occur, local inflammation, and in some instances, prolapsus of the mucous membrane, will take place, the former arising from the mechanical irritation of the foreign body, and the latter from repeated efforts to dislodge it, particularly if small, for when large, it will mechanically obstruct the descent of the mucous membrane, especially when incompletely introduced. The parts in the neighbourhood of the anus and all the mucous membrane that may be protruded, become still further engorged with blood, in consequence of the violent straining, as well as the pressure which the foreign body, when large, exercises on the hemorrhoidal veins, thus preventing the return of blood to the centre of the circulation. In the male, the inflammation may extend to the neck of the bladder, and give rise to the retention of urine; and in the female, to the vagina, causing blenorrhagia and bearing down pains.

The instruments necessary for extracting these bodies are, blunt hooks of different sizes and shapes, a lever, gimlet, cutting forceps, strong long scissors

with probe points, a six inch narrow saw, wooden gergeret, polypus and lithotomy forceps of different shapes and sizes, a speculum, strong waxed ligatures, metallic tubes of various length and size, and a probe pointed bistoury; to all of which, the crooked finger and a small hand are admirable adjuncts.

When the foreign body is large or spiculated, it may be necessary to divide the sphincter, in order to seize and extract it safely.* This however, in

* Mareschal relates the case of a woman, aged forty-five, who for fifteen years had been subject to colic, and for the last ten to great difficulty of defecation. When he pushed his finger into the rectum, as high as possible, he felt a concretion, which he was only able to extract with a lithotomy forceps, after having dilated the anus with a knife in many points of its circumference. The concretion was elliptical on one surface, and flattened on the other, so as to lead to the belief that it was formed in one of the cells of the colon. Its weight was two ounces, two grains and a half; its great diameter two inches and eight lines, while its smaller was an inch and seven lines; finally, its circumference was eight inches. (Mem. de l'Acad. Royale de Chirur. tome vii. lxxi. pp. 311—13. Paris. 1700.) Hevin records a case, which was related to him by M. Tostain, a surgeon of Saint Lo, in which a bone that had been arrested in the œsophagus was forced by a probang into the stomach. While there it caused great pain, and also in its course through the intestines, which occupied about a month. The patient, who had for years been subject to hemorrhoids, at this time found the irritation at the anus much increased; he therefore consulted Tostain, who, in place of hemorrhoids, found a bone, one extremity of which had pierced the rectum, the flesh, and even the skin, the body being within the intestine, while some other points were engaged in the mucous membrane. To extract it, Tostain was obliged to make a small incision in the walls of the rectum. All the bad symptoms subsided, and the patient was well in eighteen days. (Mem. de l' Acad. Royale de Chirur. tome iii. l xxxi. pp. 73.74. Paris, 1700.) Saviard was called to see a case supposed to be fistula. He however, on introducing his finger into the rectum, perceived a bone, which he endeavoured to extract with a forceps, but in vain, for it was engaged by its extremities in the ridges of the rectum. He was obliged to divide the intestine in the place where this body was fixed, after which he easily removed it. The patient soon got well. (Observ. Chirurg. obs. 66.)

consequence of its large size, can rarely be necessary, for the anus is very dilatable, as I had an opportunity of testing in the case of a delicate female, thirty-five years of age, who for seven years had been subject to constipation and repeated attacks of colic; the former had increased, attended with sickness of stomach, while the latter became more frequent, and from which she only experienced relief when her bowels were moved,—a task not accomplished without the most painful efforts and very great difficulty, much cathartic medicine and powerful enemata being necessary in each succeeding attack. I was called to visit her in one of these paroxysms, and found her sallow, emaciated and dejected. From the severe bearing down pains, together with the sense of weight and fulness in the sacral region, which she complained of, I was led to make an examination of the rectum, when I found the mucous membrane slightly protruding from the anus, and very turgid, the sphincter excessively irritable, and a large concretion distending the pouch of the rectum. I now apprized her of the nature of the case, and the absolute necessity of removing the foreign body, to which she willingly consented. Having placed her hips over the edge of the bed, and bent her knees towards her chin, while she lay on her back, I introduced a strong and long lithotomy forceps, with which cautiously laying hold of the concretion, I slowly and steadily extracted it, with no more injury than slight laceration of the mucous membrane; although on measurement it proved

to be six inches and three quarters in circumference, and two inches and a half in length. The bowels were then freely evacuated by injections; leeches and fermentations were applied to the anus, the recumbent position was enjoined, and a speedy recovery ensued.

If the foreign body should consist of inflexible solid animal or vegetable substance, it may be found advantageous to fix it with the fore-finger of the left hand, while we bore a hole in and extract it with a gimlet.* Should it be hollow or brittle, an intelligent boy can best withdraw it by the hand well oiled and cautiously introduced into the rectum.†

* Saucerotte withdrew a piece of wood, three inches in length and two in width, with a cork-screw, which he inserted into the wood, while he steadied it with the fore-finger of his left hand. Bruchman performed a similar operation with a gimlet.

† Nolet, surgeon to the King of France and Marine Hospital at Brest, relates the following curious case: A monk wishing to get rid of a violent colic, introduced into the rectum a bottle of Hungary water, (these bottles are generally long,) through the cork of which, he had made a small opening to permit the fluid to flow into the intestine. In his anxiety to perform the operation well, he pushed the bottle so far that it completely entered into the gut. He could neither go to stool nor receive a lavement. A *sage femme* failed to insert her hand; the forceps and speculum were tried in vain; however, a boy, from eight to nine years of age, succeeded in introducing his hand and removed the bottle. (Observations curieuses sur des phénoménes extraordinaires qui regardent particulierement la Medecine et la Chirurgie. Obs. xxxiii. p. 103.) Dessault, in endeavouring to extract a porcelain jelly pot of a conical form, and about three inches in length, which had been introduced for eight days, placed on two opposite points of its diameter two strong pincers, which however fractured it, so that he was compelled to extract the pieces in succession. Though Dessault succeeded in accomplishing this safely, he might have experienced much more difficulty, and the patient been in more danger, had it been glass;

When a piece of bone, ivory, wood, or horn, is fixed across the intestine, it may be extracted with the forceps,* finger,† or

for, in such a case, the contraction of the muscular and folding of the mucous coat would have more influence in entangling the fragments, because of their greater smallness, sharpness, and consequently more irritating character; circumstances which could not fail to produce extensive injury of the intestine. The result, therefore, of this case, ought not to encourage those, possessing less tact than one of the greatest modern surgeons, to adopt an expedient which he could not avoid.

* Morand reports the two following cases: A man about sixty presented himself at the Hospital de la Charité, complaining that the pipe of a syringe had entered his rectum, and he could not discharge it. Gerard introduced his finger and felt a foreign body, which he removed with a lithotomy forceps. It proved to be a large knitting sheath of box wood about half a foot long. (Mem. de l' Acad. Roy. de Chirur. tom ix. l. xxi. pp. 357.—78. Paris, 1700.) A weaver, about sixty years old, who for a long time had suffered from constipation, having heard vaguely of the efficacy of suppositories in children, introduced a shuttle furnished with its roll of yarn into the rectum. After five days, being unable to withdraw it, he presented himself at the Hotel Dieu for assistance; when Bonhomme extracted it with a lithotomy forceps, aided with his finger. By injections, fomentations and leeches, the cure was completed in twenty days. (Op. cit. pp. 358—59.)

Hevin relates the two following cases: M Quesnay pushed a bone, which was arrested in the œsophagus, into the stomach. Afterwards this body presented itself near the orifice of the rectum. The patient, tormented with pain, called on Quesnay, who introduced his finger into the anus, and found the bone placed obliquely across the gut, with its inferior extremity fixed into its walls. He passed a forceps along his finger, and having seized the bone superiorly, lifted it up, thus disengaging its inferior portion. He then grasped it lower down, and removed it without difficulty or pain. (Op. cit. tome iii. pp. 71, 72.) Faget was called to see a man who complained of severe pain in the fundament and bladder, with retention of urine. On examination of the rectum, he found a foreign body situated transversely, and fixed firmly into the intestine. He introduced a forceps, seized and easily withdrew this body, which proved to be a mutton bone, about as thick as a quill, seventeen lines long, and sharp at both extremities. The patient had swallowed it eight days previously. (Op. cit. tome iii. p. 72, 73.)

† Méeck'ren mentions a case, in which the jaw bone of a Turbot of great

hand.* In some cases it may be found advisable to divide it with a cutting forceps, or with a small saw, on a wooden gergeret, after which each half may be removed with ease and safety; an object which,

length was arrested in the rectum. The patient thought that the local pain, fever and constipation, depended upon hemorrhoids. Méeck'ren could not discover any trace of inflammation; however, he prescribed leeches, anodyne liniments, glysters and emollient cataplasms. The apothecary, in administering a lavement, discovered that the pipe of the syringe struck against a foreign body. Méeck'ren being informed of this, introduced his finger into the anus, and discovered a bone placed across the rectum, with its extremities fixed in the walls of this intestine. He extracted it with his fingers, the process being both difficult and painful. After its extraction, the pain and fever subsided, and by means of detersive injections, the patient soon recovered. This body had caused much pain in its passage through the intestinal canal. The patient recollected that he had swallowed it eight days previously. (Obs. Med. Chirurg. cap. 36. p. 160.)

* Thiandiére details the case of a man aged twenty-two, who, with a view to overcome costiveness, introduced a forked stick into the rectum. This stick was five inches long; one prong was an inch and a half longer than the other, and they were separated to the extent of two inches, each prong being about four lines in diameter, and the stem formed by their union half an inch. He inserted the or stem first, and when the short prong had entered the bowel, he endeavoured, by dragging on the long one, to force out the indurated feces. In this ingenious essay it is unnecessary to say that he failed completely; the pain being very severe, he ceased his manipulations, and finding it impossible to withdraw the fork, he forced the long prong completely within the anus, with the extraordinary idea that it would be consumed with the food. Fearful to divulge the nature of his case, he bore his sufferings in solitude and despair, until the abdominal pain and difficulty in uriating led him to seek the aid of Thiandiére, who on making an examination soon discovered the foreign body, but it was so high up that he could scarcely touch it. He endeavoured, but in vain, to extract it with a forceps passed through a speculum. The happy idea then struck him of introducing his hand, which, after having washed out the rectum, he insinuated finger by finger. Conducted by the long branch, he succeeded in reaching the bifurcation of the stick, and disengaged it with difficulty from a fold of the mucous membrane, in which it had become

without this expedient, could not be accomplished but with great difficulty and danger.*

In case the foreign body be rough and long, the surgeon ought, if possible, to fix a ligature on its inferior extremity, and then slip a tube over it; so as to protect the rectum, from the violence it would otherwise inevitably suffer from the rough surface, during the process of extraction.†

If metallic rings and similar bodies cannot be removed with the finger, blunt hook, or forceps, they should be divided with a strong cutting plyers, when, in all probability, difficulty will be no longer encountered. Should it be impossible to extract biliary and alvine concretions by means of a lever, the three branched forceps, or blunt hook, they

entangled, then compressing the prongs together, he safely removed it. (Bullet. Gen. de Therapeut. Janvr. 1835.)

* Méeck'ren, in his work just quoted, mentions a case which occurred to Tholuix, in which the jaw-bone of a fish was situated across the rectum. This surgeon cut it across with a scissors, and then extracted the two portions with ease.

In the Miscellanea curiosa sive ephemer. acad. natur. curios. dec. iii. ann. ii. obs. viii. we read of a case in which a similar course was pursued for the extraction of the jaw-bone of a dog.

† Marchetti mentions an uncommon case, of which the following is an outline. Some vicious students of Goettingen introduced into the rectum of an unfortunate woman, all, save the small extremity of a pig's tail, from which they had cut enough of the bristles to render it as rough as possible. Various attempts were made to extract it, but in vain. Marchetti being consulted, adopted a very simple and ingenious procedure, which consisted in securing its inferior extremity with a strong waxed thread, and slipping over it into the rectum a canula prepared for the purpose. He thus defended the bowel from the effects of the bristles, and easily removed it. (Obs. Med. rarior, Syllog. cap. vii.)

ought to be crushed with a stone forceps designed for such purpose, and then extracted in fragments.*

When indurated feces obstruct the rectum, they should be removed with a scoop or the finger. This unpleasant task I have twice performed. In one case, the constipation was of fifteen, and in the other of nine days standing. Both persons were of sedentary habits, and subject to constipation. In each case, the abdomen was tender and swollen, the calls to stool frequent, and the discharge scanty, consisting of little else than mucus. In one, the face and eyes were turgid, the veins of the neck swollen, and the respiration short. In both cases, the sphincter was firmly contracted, but soon yielded to the slow and steady pressure of the finger. When I had evacuated the pouch of the rectum, I threw up a large quantity of warm oil, and thus

* Moreau mentions the case of a woman aged thirty four or five, who for a long time, but particularly for four years, had laboured under a sensation of considerable weight in the fundament. Her complexion was pale and at times yellow; she was subject to frequent attacks of colic, and her stomach was so weak that it scarcely retained any nourishment. Her efforts to defecate were sometimes so considerable that they were followed by convulsions, and cold perspiration. So much did she dread these efforts, that she resisted the calls of nature, and consequently seldom had a motion oftener than once in fifteen days or three weeks, when she moderated the violence of the bearing down pains, and facilitated the issue of the feces, by resting the fundament on a round stick. On examining the rectum, he perceived a solid body, apparently of large volume. He injected almond oil into the intestine, and then introduced a lithotomy forceps, with which he seized the concretion, but in the extraction it broke; however, the fragments were easily removed. This concretion was of the size of a large pippin. (Mem. de l'Acad. de Chirur. tome vii. pp. 317—20. Paris, 1700.)

succeeded in softening down, and consequently in causing complete evacuation of the indurated mass.

During each of the operations now described, the patient should be placed in the same position as for lithotomy. It will not be necessary to say more on this subject, than that with the instruments above mentioned, and moderate ingenuity on the part of the surgeon, he will be able, under almost any circumstances, to clear the rectum of foreign bodies.

I may mention that leeches, in attempts to apply them to the anus, may make their way into the rectum. They will, however, be readily expelled by injecting an infusion of tobacco, or a solution of salt.*

Finally, ascarides are occasionally lodged in great numbers between the folds and in the lacunæ of the mucous membrane of the rectum. They give rise to aching, and even lancinating pains in the anus, setting in generally towards the latter end of the day, or beginning of the night. In some instances these attacks are periodical. This is not the place to enter upon the general treatment of ascarides. The only part which concerns us now, is their mechanical removal. Brera

* Zacutus Lusitanus records a case in which a leech, about to be applied to a hemorrhoid, made its way into the rectum. He injected onion juice into this intestine, and the leech was soon discharged, almost dead. He recommends injections of ox gall, or castor, in similar cases. (De Med. princip. Histor. lib. i. obs. 7.)

has recommended this to be accomplished by the introduction of a piece of lard ar tallow candle, which, he says, when withdrawn, will bring along with it the greater part of those impacted in the lower part of the bowel. Insertion of the finger, as recommended by Howship, is, however, much more effectual, as we are able to withdraw it in such manner as to extract worms that would elude the lard or candle. The better plan is to use a small lithotomy scoop for the intestine, and that of a director for the lacunæ. This latter instrument I found particularly useful in the case of a boy nine years old, who from his weaning had been tormented with ascarides, and for some weeks had suffered from excruciating pain in the anus, which was greatly aggravated for a few hours after going to bed, attended with fever and slight delirium.

CHAPTER V.

LACERATION OF THE RECTUM.

This species of injury may be either incomplete or complete. When incomplete, the laceration seldom extends beyond the mucous tunic, and, in the majority of cases, is produced by the expulsion of indurated feces; it may, however, result from the introduction* or extraction of foreign bodies. If the consequence of defecation, the rent is either transverse or vertical. When transverse, it is situated above the internal sphincter, and is the effect of the forcible extrusion of a fold of the mucous membrane, which lapping under the mass of indurated feces, becomes forcibly everted by their expulsion, and in undergoing this change of position, is torn from side to side. When vertical, it generally terminates where the skin and mucous membrane unite, and is the result of forcible and violent distension of the anus.†

* The pipe of a syringe when awkwardly introduced, may lacerate the mucous membrane.

† In some cases of constipation, while the expulsive muscles act with great energy, the sphincter remains contracted, and yields but slowly; so that the

The production of this accident is attended with a painful sensation of tearing and a discharge of blood. The pain, however, gradually, but never entirely subsides, and is always renewed, with more or less severity, by each successive evacuation. Soon after the accident occurs, inflammation commences, effusion of lymph takes place, the edges and base of the rent become swollen, granulations sprout up, followed by suppuration, and now either cicatrization ensues, or the wound is converted into an ulcer.

The great object in the treatment of this injury is to keep the bowels easy by the use of emollient lavements and after each evacuation to cleanse the wound; for I have seen some cases in which the lodgement, even of a small quantity, of feculent matter between the lips of the wound, created the most agonizing pain and spasm of the sphincter ani. If the patient be very irritable, and the wound tender to the touch, the better plan will be, to pass a pencil of caustic over it twice or thrice, and then apply a cataplasm made of bread, and a solution of the superacetate of lead with laudanum. Should ulceration be established, the treatment recommended for fissure (see chapter ix.) will become necessary. With respect to the constitutional treatment, nothing more in the common run of cases will

indurated fœces contuse and abrad the surface of one or more points of the mucous membrane, which, if they do not heal, become converted into fissures.

be advisable, than to restrict the patient to a low vegetable regimen, and enjoin the horizontal position, so as to prevent, as much as possible, the accumulation of blood in the hemorrhoidal veins, which, in consequence of the absence of valves in the portal system, is invariably increased by the erect position. Blood-letting can seldom be necessary; if, however, the patient be of a full habit and labours under general excitement from pain in the anus, it may become so. Purgation is never advisable, from the tendency which the most active cathartics have to produce vascular repletion of the rectum, and also from the stimulating character which they one and all impart to the fecal matter. This I would desire to impress on the mind of the student, for he will find the efficacy of purgatives advanced by some of the best authors, and, as the advantage which they attach to them consists solely in their power of evacuating the large intestines, I would suggest the propriety of substituting emollient enemata.

I shall now subjoin three cases, with the view to illustrate and give a more practical bearing to this subject. Mr. D., from whom I removed some piles a few months previously, called on me about six weeks ago, in consequence of a laceration about three quarters of an inch long, situated on the posterior part of the anus, and extending vertically into the bowel. He stated that it had been produced

by the passage of indurated feces three days previously, and was then attended with a sensation of tearing and a sanguineous discharge. By keeping the horizontal position, using lavements, ablution and saturnine poultices with laudanum, the rent soon healed.

Mrs. C., from whom I removed piles last summer, sustained a laceration of the mucous membrane, and fine skin of the verge of the anus, in the act of expelling indurated feces. After suffering great annoyance for five days, she sent for me and complained of pain in the anus, with spasm of the sphincter ani, great nervous excitement and constipation. On examining the parts, I discovered a crevice on the left side of the anus, with an extensive base and tumid edges, between which were two small pieces of indurated fecal matter. I ordered an emollient lavement, tepid ablution, and a saturnine poultice with laudanum, by which her symptoms were mitigated for some hours, but the spasm of the sphincter returning with violence during the night, her sleep was broken; therefore on the following morning when I visited her, I passed a cane of caustic thrice over the lacerated surface, having previously exhibited an enema and cleansed the parts thoroughly. I then applied a fresh saturnine poultice with laudanum, and enjoined a continuance of the horizontal position. The burning pain soon abated, the spasm did not return, and with the aid of ene-

mata, ablution, saturnine poultices, impregnated laudanum, and the horizontal position, she rapidly recovered.

In the winter of 1829, Dr. Mason called me to visit Mr. H., who, in consequence of the sudden evacuation of indurated feces, had been labouring under pain and weight in the fundament for a few weeks, attended with purulent discharge. On introducing my finger, which was not easily effected, I discovered an indurated and swollen flap of the mucous membrane standing across the right half of the bowel, corresponding to the upper edge of the internal sphincter, and above a chasm, from which it had been detached, containing small particles of indurated feces. I now carried the knife, which I commonly employ for fissure, (see plate viii. fig. iii.) flatwise along my finger, and divided the flap of mucous membrane, the sphincter ani and all the intermediate parts. The wound was then dressed from the bottom, and the care of Mr. H. intrusted to Dr. M., who informed me that a rapid cure ensued.

As complete laceration of the rectum varies in situation and extent, according to the causes which give rise to it, we shall describe each species under a distinct head, and thus endeavour to remove the obscurity which at present prevails on this subject.

First species. The accident, most commonly designated rupture of the rectum, is in reality nothing

more than rupture of the sphincter ani, and is produced by parturition. The circumstances on which it depends, belong either to the mother or the child. Those which appertain to the mother, are, firstly, her position; secondly, the form of her pelvis, and thirdly, the figure of her perineum. We shall now succinctly explain how these tend to the production of this form of laceration.

Her position. When she is allowed to remain in the sitting posture, or to lie on her side, with the lumbar vertibræ curved forward, as in the case when pressure is made against the loins, the head of the child is directed downward and backward, pressing on the rectum and perineum. *Form of her pelvis.* When the lower extremity of the sacrum is but little curved forward, as is sometimes the case, the pubeo-cocygean diameter of the pelvis is increased, and in this case, as well as when the sacro-vertebral articulation is prominent anteriorly, the axis of the pelvis passes more backward, consequently, the inclination of the plane which ought to direct the head of the child forward, is diminished, and the arch of the pubis presses it, or, to speak more correctly, gives it a direction downward and backward. *Figure of her perineum.* The perineum is occasionally prolonged considerably forwards, so that the vulvular orifice is exceedingly small, and situated close under the arch of the pubes. The majority of cases of this kind are of original

conformation; but there are a few purely accidental. About a month ago, in examining an unmarried lady, who was the subject of an immense uterine tumour, I could scarcely insert my finger into the vagina, and this did not depend upon an obstruction caused by the hymen, but was produced by the prolongation of the perineum. When this state of parts is accidental, it is the result of cicatrization consequent upon laceration or ulceration of the inferior portion of the vulva and perineum. M. M. Buet* and Dupuytren† each relate a case of this kind resulting from laceration. In Buet's case, sutures were not used, but were in that of Dupuytren. Should a female so formed become impregnated, it will, in all probability, be impossible to prevent laceration of the perineum, which will take place in the median line if this be the weaker part, but if the barrier be equally strong, there may be perforation. In 1833, I attended a lady, about thirty years of age, in her first accouchement, in whom the perineum was prolonged much forward. Her labour went on kindly until the head of the child came in contact with the external parts, then, the most violent pains, frequently repeated, were scarcely sufficient to propel the child. It was with great difficulty that I was able to prevent the perineum from being extensively lacerated; it however suffered

* Journal complémentaire des Sciences Medicales, tome xxxix.

† Lecons orales, tome iii. p. 198.

much. Being called to this case in the night, and not expecting any necessity for my pocket case, I did not bring it, else I should have had recourse to a procedure in this instance which, afterwards, I advantageously pursued, under the following circumstances: In May, 1834, a gentleman with whom I was partially acquainted, but whose family I did not attend, called on me to see his wife. In consequence of my not being yet up, he left his message, but did not specify her case, consequently I was not aware that there was an immediate necessity for my visit. I therefore merely added her name to my list, with the intention of seeing her in the course of my morning round. Two hours afterwards a messenger met me, and urged my immediate attendance. I therefore repaired to her dwelling with all possible speed, and found a healthy young lady, (about twenty,) in labour with her first child, and from the piercing character of her cries, I lost no time in making an examination; when, to my great surprise, I found the perineum much elongated, the orifice of the vagina extremely narrow and close to the pubes, and the head of the child pressing forcibly downward. When the pain, which was violent, subsided, and the head retreated, I introduced my finger, and to my discomfiture, found a rent at least four inches in length, extending transversely through the posterior part of the vagina, about an inch and a half from the

vulva. I now inserted my finger into this laceration, and distinctly felt the lower extremity of the rectum firmly contracted. Another pain soon came on, which fortunately was not very strong, so that I was able to support the child's head, while I had a probe pointed bistoury taken from my pocket case, and when the pain ceased, I divided the perineum obliquely downward and outward on both sides, to an extent sufficient to allow of delivery without further laceration. In this case, I have no doubt had I been a little later, there would have been perforation of the perineum.*

The circumstances relative to the child, which give rise to the accident, are numerous; but I shall restrict myself to the most common. The large size and solidity of the head; the rapidity with which it is propelled; neglect in supporting the perineum; omitting to see that the child pursues properly the axis of the pelvis, in proportion as it passes through the external parts; disengaging the child clumsily and violently with the arm turned towards the rectum, when either the head or feet present; attempting forcibly to pull the arm corresponding to the rectum, directly downward and backward, instead of bringing it laterally across the concavity of the sacrum, before withdrawing it; neglecting to loop the forceps when placed on

* See Dupuytren de la déchirure centrale du périnée pendant l'accouchement. Op. cit. p. 175.

the child's head; leaving them locked and continuing their use after the head has been brought to the external orifice; making the traction too rapidly and carrying the instruments too far backward, when they are used to bring the head through the external parts; forgetting when the occiput corresponds to the symphisis pubis to commence elevating the forceps as soon as the head presses on the perineum, so that when this part has passed through the vulva, the forceps will describe a right angle with the abdomen of the mother.

These lacerations, as I have said, commence in the perineum, and never occupy more than the sphincter ani and mucous membrane. Of this last fact, I have satisfied myself by the examination of several cases; nor is the opposite opinion in accordance with the anatomy of the parts. We can easily conceive how the posterior and inferior portion of the vagina, together with the sphincter of the vagina and anus, may be torn through; and that such laceration may implicate not only the integuments, but also the mucous membrane of the rectum; but that the muscular tunic should be lacerated, is beyond all credence; for the pressure of the child can surely have no other effect than that of approximating the sides of this intestine. In fact, to tear through the rectum, a distending force would be necessary, as will hereafter be described. Now in the case before us, there is no

distending force, no matter whether the rupture be produced by the pressure of the child or the use of instruments, the rectum merely suffers a pressure, by which its sides are more closely approximated. In such cases, therefore, I fear there has been an error, as to the extent of the laceration, and this I am disposed to think, has arisen from the depth of the cleft, which depends upon the facility with which these over distended and naturally lax parts admit of swelling. In consequence of the depth of this cleft, it entangles the feces, which in such cases are rendered fluid by either medicine or enemata: so that, on a superficial examination, a surgeon may be easily deceived as to the real nature of the accident.

Second species. In this, the rupture is above the sphincter, and is sometimes produced by the elbow, or lower extremity of the child, by the crotchet, by forcible straining to evacuate the rectum, when impacted with indurated feces,* but more commonly by the introduction of foreign bodies, particularly of bougies and injecting pipes, these instruments being forced in some instances into the vagina, and

* The following interesting case is related by Mr. Mayo.*** "Æt. 40, naturally of a very constipated habit of body, and at the time being on a journey, on striving to relieve her bowels, which had not acted for many hours, felt something give way, to use her own expression, and on the following morning some feces passed *per vaginam*. On examination of the vagina and rectum, a transverse rent was found two inches within the parts, sufficiently large to admit the end of the finger." (Observations on Injuries and Diseases of the Rectum, by Herbert Mayo, London, 1833. p. 13.)

in others into the peritonial cavity. I once witnessed a case in which the end of an umbrella was projected, in the act of sitting on it, into the rectum, and, passing on obliquely, perforated the recto-vaginal partition.

Third species. The vagino-rectal partition, sphincter and perineum, are sometimes, though rarely, lacerated. This is most commonly produced by the head or buttocks of the child being directed so far backward, that when the uterus contracts, the recto-vaginal partition is forced downward before the head of the child, and protruded through the dilated anus, and then ruptured from within outward. In 1833, I accouched Mrs. W., the mother of several children, who was in an advanced stage of consumption. Her pains advanced so rapidly, that on my arrival I made an examination, when I found that the head of the child was forcing down the vagino-rectal partition, and had dilated the anus to a great extent. With as little delay as possible, I turned her on her back and gave the head of the child an inclination forward, so that the delivery was safe and rapid.

In the treatment of the different lacerations of the rectum, the patient should be confined to the horizontal position, and put upon a meagre diet; the lacerated parts should be kept clean, cloths saturated with lead water and laudanum ought to be applied, and the bowels kept easy with emollient

enemata, until suppuration is established. If there be much fever, blood should be taken from the arm; and, provided the surrounding parts be unduly inflamed, leeches may be applied.

When granulations sprout up, we should cease administering enemata, and, on the contrary, give small doses of laudanum to suspend the alvine evacuations during the healing process. It is only at this period, that sutures should be inserted; for in the many cases I have witnessed, I have never seen one in which union by the first intention took place. This I think may be accounted for by the profuseness and irritating character of the vaginal discharge. When the sutures are inserted in the first instance, they are put upon the stretch by the subsequent tumefaction, and having partly cut their way out, they become quite loose, and consequently are useless during the process of granulation.

When the rupture only extends through the sphincter and mucous membrane, I do not think that the sutures commonly used are always sufficient to accomplish the desired end; because they do not extend to the bottom of the cleft, consequently, while they retain the superficial parts in contact, the internal or deeper portion of the wound receives the vaginal discharge, which by distending it, keeps the sutures on the stretch, and finally works out beneath them. That this is not always the case, especially when the laceration is moderate, I am well

aware; but that it frequently is, particularly when they are inserted immediately after the accident occurs, I have had many opportunities of satisfying myself.

To obviate the inconvenience which I have ascribed to the interrupted suture, I have devised a pin which is represented in plate viii. fig. iv. This instrument is as thick as that used for hare-lip, and consists of three parts. The first, which is made of silver, is from one and a half to two inches long, curved as represented in the plate, terminating at one end in a female screw, and at the other in a transverse shoulder about a quarter of an inch long. The second is a triangular steel pin, exactly resembling that used for hare lip, and screws into the extremity of the first portion. The third is made of silver, and resembles the transverse shoulder of the first portion, with this exception, that a small male screw passes vertically from its centre, so that it may be fixed into the first portion, when the second is removed. This instrument is to be used in the following manner: the first and second portions being united, provided the tumefaction has nearly subsided, and granulations are formed, the patient should be brought to the edge of the bed, her hips elevated, and her knees approximated and carried towards the chin. The parts being now cleansed, the needle ought to be dipped in oil and inserted into the left side of the perineum, a line more

than half the breadth of its curve from the edge of the wound, and immediately above the verge of the anus. When it has passed vertically for a distance equal to two thirds of the depth of its curve, its point should be projected transversely, so as to cross the bottom of the wound, and then carried outward through the other side of the perineum. This stage of the operation will be greatly facilitated: firstly, by pressing out the left labium during the transmission of the needle through the left portion of the perineum and the base of the wound; and secondly, by steadying the right side of the perineum, with the extremity of the thumb placed immediately without the point through which we desire the needle may pass. When the puncture has been completed, the steel pin should be unscrewed and the third portion fixed in its stead. If it be thought advisable to insert a smaller pin higher up, it may be done, and then a thread should be twisted over their extremities, as in hair-lip. It may be prudent to place a light bolster of lint beneath the twisted ligature. This method of operating was first carried into effect, in the alms-house of this city, by my friend Dr. Stevenson, who, not only in this, but on other occasions, afforded me opportunities of testing chirurgical innovations.

About eighteen months ago, a lady came from the country, to consult me concerning a rent of this description, of five months standing. On examination,

I found that the surface of each lip of the wound had cicatrized separately, but from the entanglement of feculent matter and leucorrheal discharge of an acrid character, she was continually tormented with excoriation and tumefaction of the parts, which rendered her situation most miserable. I recommended the use of zinc lotions, frequent ablution, enemata, low diet, and the horizontal position. In a few days all irritation having ceased, I then excised the new skin from the surfaces originally wounded, and inserted two pins as described above. The horizontal position was maintained, her bowels were quieted with small but frequent doses of opium, and she was allowed nothing but broths for eight days. At this period the rectum was washed out with warm flaxseed tea, and on the ninth day the pins were removed. A complete cure followed.

When the rectum is ruptured above the sphincter, provided the rent be not large, it will generally heal: firstly, by keeping the patient on a meagre diet, enforcing the horizontal position, and relieving the bowels with enamata, provided the peritoneum be not lacerated, and with castor oil if it is; and secondly, when suppuration is established, by exhibiting opium to quiet the bowels for a few days. If, however, the wound does not heal, its edges should be pencilled with lunar caustic In the case above alluded to, in which the rectum was torn by the

extremity of an umbrella, the edges of the wound required three applications of caustic before they adhered. Though I have not seen or read of such a case, it is only in accordance with our knowledge of therapeutics to say, that some few of this kind may require the application of the actual cautery.

When the recto-vaginal partition, sphincter and perineum are torn through, the case assumes a very serious aspect. I have never seen but one of this character, and that was in the person of Mrs. D., who, in 1828, had a dreadful accouchment. Thirteen months after this, when the surfaces of the wound had healed separately, and all the parts were puckered, tumid and partly excoriated, after having removed as far as possible the existing irritation, I performed the following operation. Having placed her as in the operation for stone, I excised the edges of the wound on a wooden gorgeret, and passed two sutures, each half an inch apart, through either lip of the recto-vaginal septum, and then tied them in the vagina. Finally, I inserted one of the perineal pins as described in pages 82-3. The sutures and pin were removed on the eighth day, when all the parts appeared firmly united. I may say that I experienced no difficulty in passing the sutures, which I attribute to the employment of small curved needles, (see plate viii. fig. vii.) and the *pince porte aiguille*, of Dieffenbach. The treat-

ment subsequent to the operation, was similar to that of the last case.

Before I quit this subject, I ought to mention that some surgeons have divided the sphincter in order to remedy rupture of the rectum. I have already demonstrated that the majority of cases styled *rupture of the rectum*, are in reality cases of laceration of the anus, the rectum being intact. It is only in such cases, therefore, that the division of the sphincter, if an appropriate remedy, can be applicable. I think I have clearly shown, that other means, of a less severe character, suffice for the reparation of this injury.

CHAPTER VI.

INFLAMMATION OF THE RECTUM.

INFLAMMATION of the rectum arises from a variety of causes—as, the introduction and extraction of foreign bodies—the lodgment of indurated feces, biliary or alvine concretions—ascarides—hemorrhoids—repelled dartrous and other cutaneous eruptions—gout*—rheumatism—the application of cold and wet†—surgical operations—and acrid secretions, produced by a vitiated state of the system, disease of some other viscus, or the action of drastic purgatives.

This disease is manifested by a sense of fulness, weight, burning and throbbing in the fundament, which is increased by sitting erect. The act of defecation is accompanied with and followed by severe

* In two cases, I could not trace inflammation of the rectum to any of the causes mentioned in the text; both patients, however, were subject to gout. One of them had repeatedly suffered from inflammation and excoriation of his throat, which was invariably a precursor of a gouty attack. In both cases the inflammation of the rectum was relieved by the appearance of gout in the foot.

† Coach drivers, from sitting on cold and wet seats in winter, are very subject to inflammation of the rectum.

pain, which, from the contraction of the sphincter ani, assumes a spasmodic character. The heat of the intestine is much increased, as may be ascertained by the introduction of the finger, which, however, is attended with horrible suffering. There is considerable fever. The urinary organs sympathize—there may be disury, strangury, or even retention of urine; the first and second of these arising from actual inflammation of the *trigone vesicale*, and the third from spasm of the perineal muscles. After the disease has continued for some time, the cellular tissue external to the rectum becomes engorged, and if the primary affection be not removed, suppurates. Occasionally, the peritoneum becomes inflamed, and the patient's suffering and danger are thereby much increased; but, fortunately, this is a rare occurrence. In some cases, particularly in robust persons beyond the meridian of life, hemorrhage occurs from time to time, especially after stool, and invariably brings relief. The inflammation sometimes extends to the colon, and then a new series of symptoms set in, viz: tormina, tenesmus, muco-sanguinolent evacuations, and a considerable increase of fever. Females are sometimes tormented with bearing-down pains, and profuse mucous discharge from the vagina. It not unfrequently happens that after the disease has continued a few days, an abundant purulent secretion takes place, with which the pain, burning and

throbbing subside, the febrile symptoms disappear, and complete restoration rapidly ensues. Some practitioners are alarmed at the appearance of this discharge, supposing that it indicates an extension of the inflammation to the colon; therefore, it is well to know that the feces are of their natural aspect in inflammation of the rectum, while in dysentery they are mixed up with blood and mucus.

In the treatment of this affection, the first object should be to ascertain the cause which has produced it. If it has arisen from the lodgment of foreign bodies, alvine concretions, or indurated feces, they ought to be extracted; if from ascarides, vermifuge medicine should be exhibited, and in some rare cases, in which they are very abundant, it may be desirable to extract them.* These objects being attained, the bowels ought to be washed out with flaxseed tea, great care being taken in the introduction of the pipe of the syringe. If the fever be violent, blood should be taken from the arm; but under ordinary circumstances, the application of leeches around the anus will serve the purpose of general blood-letting.† Ten or twenty ought to be applied, according to the urgency of the symptoms, and repeated daily until the inflammation is evidently on the decline. When the leeches drop off, the

* See Chapter iv. and xiv.

† When leeches are applied immediately to the verge of the anus, they increase the irritation.

patient should, if possible, sit over the vapour of warm water, so as to encourage the bleeding, and when it ceases, cataplasms of flax-seed meal, saturated with laudanum, ought to be applied and changed every three hours. Diluent beverages may be taken freely, but every other species of injesta should be strictly prohibited.

If there be symptoms of peritonitis, blood ought to be taken freely from the arm, and a large number of leeches, followed by anodyne fomentations, applied to the abdomen; calomel and opium should be administered according to the urgency of the symptoms, and counter irritation established on the lower extremities.

Should there be dysenteric symptoms, general blood-letting may be necessary, especially in robust individuals; but leeches applied to the anus will answer in the majority of cases.* Small starch enemata containing laudanum, anodyne fomentations to the abdomen, stimulating pediluvia and small doses of blue pill, ipecacuanha and opium, will generally be sufficient for the removal of these symptons.

When women suffer from bearing down pains, anodyne enemata and warm hip baths afford them most relief.

* The advantage of applying leeches to the interior of the anus in dysentery, arises from the free bleeding which ensues in consequence of the great vascularity of the part, and the free connexion between its vessels and those of the part inflamed.

Strangury and dysury require no other treatment than the warm hip bathing; but should there be retention of urine, we ought, in addition to the remedies already mentioned, exhibit a full dose of morphine. In case this fails, a solution of tartar emetic should be given every ten minutes until it produces vomiting; when, if it does not produce the desired effect, as a last resort, a gum elastic catheter ought to be cautiously introduced.

CHAPTER VII.

INFLAMMATION AND EXCORIATION OF THE ANUS.

These affections are generally combined and may be produced by long continued walking or riding on horseback, the passage of irritating secretions, or want of cleanliness. Obesity and warm weather strongly predispose to them.

When they arise from excessive walking or riding on horseback, nothing more will be necessary than to keep the bowels easy with enemata, to wash the parts three times a day, to dust them with hair powder or lapis calaminaris, to place a fold of old linen between the buttocks, and to enjoin the horizontal position.

Should they depend upon irritating secretions produced by cathartic medicine, they will subside when the purgation ceases. If they co-exist with diarrhœa or dysentery, they will disappear with the cure of these diseases. When the secretions, however, become vitiated from luxurious living, it will be necessary to enforce a vegetable diet, to exhibit

blue pill and cathartic extract at night, and Rochelle or Epsom salt in an infusion of senna, quassia, or some such preparation, on the following morning. This course should be continued until the alvine discharges become healthy. The local treatment necessary in each of these cases, is similar to that specified above.

When they arise from want of cleanliness, the hair and discharge become matted together, and thus form a crust, which covers the excoriated surface. Under such circumstances, the parts ought to be poulticed until the crust becomes so soft that it can be removed without cutting the hair, for should this be done, as I have once seen, the irritation created by the stumps will increase the inflammation, protract the healing of the suppurating surface, and render the patient exceedingly uncomfortable, until the hair has again acquired sufficient length to diminish the friction of the buttocks on each other.* After the parts are sufficiently cleansed, a saturnine cataplasm impregnated with laudanum should be applied, and changed every six hours, at which time the diseased surface ought to be washed with cold water and the common yellow soap. An emollient lavement may be taken daily, the horizontal position maintained, and a low diet strictly

* Excision of the hair surrounding the anus, without the co-operation of any other cause, may give rise to more or less inflammation of the integuments in this region.

observed. In some cases, particularly those of long standing, it is sometimes necessary, to use lotions of the sulphate of zinc or nitrate of silver. The ointments of the oxide of zinc, superacetate of lead, white precipitate, or nitrate of mercury, are also very useful remedies.

CHAPTER VIII.

INFLAMMATION OF THE RECTUM AND ANUS, ARISING FROM THE APPLICATION OF GONORRHŒAL MATTER.

In cases of this kind, in addition to the symptoms of inflammation mentioned in the two last chapters, there is profuse purulent discharge from the commencement, which produces excoriation of the anus, and in some instances, a considerable portion of the adjacent parts.

In the treatment of this disease, besides the means recommended in the chapters alluded to, injections ought to be employed. Those of the superacetate of lead, sulphate of copper, and more especially of the nitrate of silver, in the proportion of five or ten grains to an ounce of distilled water, are the most appropriate.*

* Valpeau recommends Howard's calomel in a decoction of marsh-mallows, in the proportion of a drachm to an ounce. He also entertains a good opinion of a white precipitate ointment. (Dict. de Méd.)

CHAPTER IX.

FISSURE OF THE ANUS.

The disease so named is an ulcer, about the eighth of an inch in breadth, and from a quarter to an inch in length, situated immediately within the anus, generally on one or both sides, occasionally on the posterior, and still less frequently on the anterior part of the aperture. In the majority of cases it is confined to the mucous membrane, though occasionally it extends to the muscular tissue.* Its inferior extremity generally corresponds to the edge of the external sphincter, though sometimes

* Merat says, "Le tissu affecté est la membrane muqueuse, mais il n'est pas rare que l'ulcération dépasse son niveau, et gagne la portion musculaire de l'intestin." (Dictionaire des Sciences Medicales, tome xv. p. 544.)

Dupuytren and Blandin assert that the ulceration rarely extends through the mucous membrane. "Cette ulceration n'attient que très rarement toute l'epaisseur de la membrane muqueuse." (Leçons Orales par Baron Dupuytren, tome iii. p. 284, Paris, 1833.) "Cette ulceration n'attient que rarement toute l'epaisseur de la membrane muqueuse," (Blandin, Dictionaire de Medicine et de Chirurgie Pratique, tome viii. p. 156.) From the above statements we may fairly infer that these authors differ with Merat, as to the possible extent of the ulceration, especially as they make no mention of its attacking the muscular tissue; however, they all admit the occasional destruction of the entire thickness of the mucous membrane.

it is placed a little higher up or lower down.* The base of this oblong ulcer is generally red, but sometimes gray, in consequence of the deposition of lymph. When recent, its edges are soft, pliant, and but little elevated; in proportion, however, as it becomes chronic, so are they more hard and prominent, changes which depend upon the interstitial deposition of adventitious matter from the irritated capillaries.

The surrounding mucous membrane is in its natural state in some cases, particularly when recent, but not unfrequently it wears an erysipelatous hue, and again assumes a livid aspect, and becomes soft.

Women are more subject to this affection than men, which arises from their leading more sedentary lives, and, consequently, being more subject to constipation of the bowels. It generally occurs in the meridian of life; nevertheless, I have treated a case in a girl of eighteen, and another in a woman of sixty-nine years of age.†

* Blandin has described both rhagades and ulcers above the sphincter under appellation of fissure, (Op. cit. p. 158.) As far as the orthography of the term goes, no objection can be offered to his arrangement, viz:—*Les fissures inférieures au sphincter. Les fissures supérieuers au sphincter de l'anus*, and *les fissures a l'anus qui sont placées au niveau du sphincter.* Yet, I think that for pathological purposes, *fissure à l'anus*, may be judiciously limited to the affection described by Boyer.

† Boyer says, " les adultes paraissent être exclusivement sujets à cette maladie; je ne l'ai jamais vue chez des enfans ou des adolescens. . La plupart des personnes qui en ont été atteintes etaient âgées de vingt cinq à quarante ans; quelques unes étaient au dessus de cet âge, une seule avoit plus de soixante ans.

Aucune classe de la société n'en parait être à l'abri: les deux sexes y sont

In the majority of cases it is preceded by vascular tumours of the rectum; then it is situated between two of them, and is produced by the forcible passage of indurated feces. In this act the vascular tumours are first prolapsed, and then separated, during which process the mucous membrane, rendered friable by inflammation, is ruptured. The contraction resulting from operations performed in this region, and the spasm of the sphincter, by opposing the free egress of the feces, become a frequent source of fissure in the former, by disposing to rupture, and in the latter by contusion and abrasion of the mucous membrane.

In the three different instances I have mentioned, the larceration of the mucous membrane does not heal, because the primary affection still continues, and even in some instances, as heretofore explained, (see chapter v.) the rupture is converted into an ulcer, though no primary affection existed.

Besides the causes now specified, inflammation, and consequent abrasion, may, from the columnar arrangement of the mucous membrane of the lower extremity of the bowel, give rise to one or more fissures.*

egalement exposés; mais les femmes en sont peut être attaquées plus souvent que les hommes." (Traité des Maladies Chirurgicales, tome v. p. 63, Bruxelles, 1828.)

* Dupuytren says, "le virus vénérien ou déposé immédiatement sur la marge de l'anus comme dans un *coït contre nature*, on ayant reflué des organes génitaux vers cette overture, comme cela arrive chez beaucoup de femmes, est une cause très commune de ces affections." (Op. cit., p. 285.)

In the commencement of this disease the symptoms are not severe, being merely, at one time, a pricking or stinging sensation, at another, a slight smarting in a certain point of the anus, which, under the use of lavements and low diet, subsides either altogether, or, after a few days, returns with some severity. The pain, gradually increasing, becomes burning, sometimes lancinating, and when severe, throbbing. It is increased by forced expirations, as coughing, sneezing, and urinating. Every effort to discharge gas and feces, is attended with excruciating torment, which continues for one or more hours, attended with violent spasmodic action of the sphincter ani. So violent is the agony, that most persons thus afflicted put off the calls of nature, maintain the recumbent position, and some even avoid taking a proper quantity of nourishment, for fear of increasing the fecal mass. The pain is always increased by stimulating food, and in females during menstruation. Occasionally I have seen it assume a periodical character, which depended

Blandin agrees with Dupuytren in this opinion; he says, "Au primier rang nons placerons le vice vénérien, soit que la sanie imprégnée de ce principe morbide ait été déposée directement sur la marge de l'anus, comme, dans le *coït contre nature ;* soit que cette matière impure ait flué des organes genitaux vere l'anus, et ait irrité cette partie par son contact, comme nous l'avons observé chez plusieurs femmes; soit enfin que les fissures puissent être considérées comme le produit local d'une syphilis deverme constitutionnelle." (Op. cit. p. 156-157.) That venereal matter, when deposited on the verge of the anus, will produce ulceration, no one can doubt; but such cases do not deserve the appellation of fissure. See note, p. 100.

upon some peculiar state of the constitution.* When the feces are solid, they are slightly streaked with blood and matter, and when more soft, are figured, and of small size.

To examine the fissure, the buttocks should be forcibly divaricated, when its inferior extremity will be brought into view; but in some rare instances we cannot accomplish this object, in consequence of its elevated site, and we are compelled to trust either to the introduction of the finger, or to the dilatation of the anus with the speculum for its detection. In a few cases, though it is immediately discovered upon separating the buttocks, we can only ascertain its length by the means just mentioned.

The introduction of the finger is attended with great difficulty and torture, particularly when pressure is made on the fissure, which seems, in some instances, to be a mere depression, in others, to be surmounted by pretty high edges, while in a few rare instances, we only become cognizant of its situation by the increase of suffering in a certain point, under the same amount of pressure.

* Merat says, " Il font ajouter que la douleur a des espèces d'accès, et que parfois elle cesse d'une maniere inattendue, de même qu'elle vient aussi sans cause appreciable, et sans qu'il soit rien arrivé qui ait pu la provoquer.

Cette douleur paraît due á la rétention des matières sur l'extrémité du rectum, dont la constriction du sphincter ne permet pas l'expulsion." (Op. cit.)

That the presence of fecal matter in the lower extremity of the rectum may cause pain, will be readily admitted; but how are we to account for its sudden cessation. To be short, I have tested Merat's explanation, by the introduction of the finger, without verifying it.

When the pain is violent during and after stool, it is accompanied with fever; and when it continues for any length of time, emaciation, hypochrondriasis, and an irritable state, with a severe train of nervous symptoms, ensue.

During the treatment of this disease, the patient should be kept on a low diet, and confined to the recumbent position. The common practice of administering cathartics, so as to produce fluid evacuations, cannot be too highly censured,—for such discharges stimulate the ulcerated surface, and thus induce dreadful irritation and spasmodic contraction of the sphincter ani; therefore, the better plan is to administer daily an enema of flaxseed tea, and after its operation to cleanse the parts well. If the disease be mild, the application of the unguentum acetatis plumbi will be sufficient for its healing, and if there be much spasm of the sphincter, the extract of belladonna will prove a powerful auxiliary. Dupuytren recommended an ointment of this kind, the proportions being a drachm of the lead, and the same quantity of the belladonna, to six drachms of lard. Before I became acquainted with his practice, I was in the habit of applying the nitrate of silver to superficial fissures attended with spasm, and then introducing meshes of lint, besmeared with a mass consisting of one part of the extract of belladonna, and seven of spermaceti ointment, a course of practice which

has succeeded when Dupuytren's ointment has failed.*

When a fissure will not heal under this treatment, and the patient continues to suffer, we should no longer delay the division of the sphincter, which never fails to give immediate relief, and to effect a rapid cure.†

To perform this operation, the patient should be placed opposite a window, couched on his side; an assistant ought to separate the buttocks, and retain them so during the operation. The surgeon having oiled the fore-finger of his left hand, inserts it into the anus as far as the second joint, and uses it as a conductor for the knife, delineated in plate viii., fig. iii., whose blade is two inches long, and one eighth broad, with a blunt extremity. Having passed the blade flatwise as high as the superior border of the internal sphincter, he then turns its edge towards the fissure, provided it be on the side of the bowel, and divides both sphincters, by cutting from within

* I have lately had a case under my care, (since the text was written,) in which I adopted this practice with the following results:—one hour after the application of the caustic, dreadful pain ensued, which continued for eight hours, though he took morphine freely, and sat in a warm hip bath. Ice was then applied, and he obtained immediate relief. On the following evening the belladonna ointment was employed, and the pain immediately returned, but was soon allayed by ablution and the application of ice. The bowels were relieved on the morning of the third day with an injection of flax-seed tea and sweet oil, and as he continued free from pain, I applied the ung. acet. plumb., under the use of which, emollient enemata, low living, and the horizontal position, he soon recovered.

† This operation was first devised and performed by Boyer. (Op. cit.)

outwards, gradually increasing the pressure so as to ensure the complete section of the external muscle. Provided a fissure exists on the opposite side, it ought to be treated in the same manner.

When the posterior or anterior portions of the intestine are the seat of disease, as the division of the sphincter and not the fissure, is the desirable object, the incision ought to be made on the side; because in this way, the external sphincter can be safely, yet perfectly, cut across, and the inconvenience arising from the shortness of the space between the coccyx and verge of the anus, the proximity of the bulb of the urethra in the male, and the shortness of the perineum in the female, is avoided. But there is also another objection to the performance of this operation in the median line, viz.: the difficulty in healing wounds in this situation, in consequence of the friction created by the motion of the inferior extremities. After the hemorrhage ceases, dossils of lint should be placed in each wound, and secured by a compress and T bandage. A full dose of morphine ought to be exhibited, and nothing but toast water, broths, gruel, and the like, allowed for two or three days. The dossils of lint, compress and bandage, should then be removed with great care, the bowels washed out with an emollient lavement, and fresh dressings applied. This course ought to be pursued daily, gradually diminishing the size of the dossils of lint,

until the wounds heal, which will be in about three weeks.

I shall now detail a few cases of this painful disease.

Mr. D., mentioned in the fifth chapter as having a rupture of the mucous membrane, two years previously had a fissure of five weeks standing, with but little induration of its base, elevation of its edges, or spasm of the sphincter. I recommended him low diet, daily lavements, ablution, and the application of the ung. acet. plumbi; under which plan of treatment the ulcer soon healed.

Mrs. C. had, for two months, burning pain in the anus, which was particularly distressing after stool, and was much increased by the erect position. She had become exceedingly nervous, lay upon a sofa during the day, and took scarcely any nutriment, fearing the pain which attended defecation. I mentioned to her husband the probability of her complaint being fissure, which on examination proved to be correct. The crevice, however, was not deep, neither was its base hard, yet the surrounding membrane was tumid, and the sphincter was in a state of violent contraction. Having administered an emollient injection, I cauterized the fissure with nitrate of silver, and then applied meshes of lint besmeared with one part of extract of belladonna, and seven of spermaceti ointment. This treatment, together with low living and the hori-

zontal position, was continued for about a fortnight; when the wound had healed and she was restored to her usual state of health.

Mrs. B. had for years been troubled with hemorrhoidal tumours, and for seven months was confined to her room in consequence of dreadful pain in the anus, particularly during and after stool: she was emaciating rapidly, and, being advanced in life, had become very helpless. I was called to see her; and on examination discovered a large fissure between two piles. (See plate i., fig. i.) I divided the sphincter on the side affected, carrying the knife through the fissure, and conducted the rest of the treatment as above described. In a short time the wounds healed and she was restored to health.

Dr. Sickels, of the U. S. Navy, called me to see Mr. P., who for some years had been in delicate health, and at the suggestion of a friend took large quantities of Morrison's pills, which purged him violently, and gave rise to violent burning pain in the anus, aggravated by the erect position, coughing, sneezing, urinating, and the passage of gas. Defecation produced the most horrid pain, which increased for three or four hours, attended with fever, and then subsided, leaving him weak and exhausted. By this continued suffering for six months, he had become emaciated, melancholy, and so irritable that he could not bear to be touched. On examination, I found a fissure, with an indurated

base and elevated edges, on each side of the anus, surrounded by an erysipelatous state of the adjacent mucous membrane, and attended with most violent spasm of the sphincter ani. Having opened his bowels with an injection, I introduced my finger, and on it conducted the knife and divided the sphincters on both sides. The dressings were then applied, and a dose of morphine exhibited. Dr. S. took charge of the case, and when I again visited Mr. P., in about twenty days, the wounds had just healed, he was free from suffering, was gaining flesh, and had returned to his mercantile pursuits.

CHAPTER X.

NEURALGIA OF THE EXTREMITY OF THE RECTUM.*

Though in the fourteenth chapter, I have given three cases of neuralgia of the extremity of the rectum and genito-urinary organs, arising from hemorrhoidal tumours, I have a strong suspicion that the majority of cases described by authors, in which both the anus and genito-urinary organs were said to be the seat of neuralgia, no such disease affected the anus, but that in consequence of irritation in the genito-urinary apparatus, the sphincter ani was thrown into a state of painful contraction.† Here, however, I ought to mention the only genuine case of neuralgia commencing in the genito-urinary organs, and from thence extend-

* Many species of organic disease of the anus, were grouped together by Sauvage, under the genus *proctalgia*. Montegre, however, was the author who first treated of *douleurs nerveuses*, (Conseils aux personnes affectées d'hémorroïdes, Gazette de santé de 1812-13,) which though frequently coupled with fissure and constriction, he many times observed to be independent of them.

† See Chapter xi.

ing to the extremity of the rectum, which has come under my observation. A physician of middle age, active habits, and tolerably good health, but of a nervous temperament, was subject to occasional attacks of neuralgia of the face, stomach, and testicles. Twice or thrice in the year, he would be seized with pain over the pubes and a desire to micturate, which generally subsided in twelve or twenty-four hours. More rarely, he suffered excruciating pain in the end of the penis, or in the posterior part of the urethra, attended with a similar state of the extremity of the rectum, but without contraction of the sphincter. These attacks were generally either preceded or followed by neuralgia elsewhere. He tried various remedies without advantage, and at last contented himself with pressure during the paroxysm, which he thought was always considerably moderated by this expedient.*

I shall now give the outline of three cases, in which the disease seemed to be confined to the extremity of the rectum.

In 1829, I was called to see Mrs. H., a nervous lady, about thirty years of age, who, for several months, had suffered from lancinating pain in the extremity of the rectum. For weeks this pain would be very severe, and then nearly, but not

*Campaignac has described a case of "Nevralgia ano-genito-urinaire." This appellation he uses after his master, Mr. Roux. (Journal Hebdomodaire de Medécine, tome ii. p. 405. Paris, 1829.)

altogether subside. Her distress was greatest towards the close of the day, and then she was compelled to go to bed and take *black drop*. Changes of temperature had a baneful influence on her, not only increasing the pain in the anus, but rendering her restless and melancholy. Her bowels were generally constipated, to remedy which she generally took three doses of magnesia every week. During defecation her distress was very much increased, especially when the excrement was hard. I examined the parts with great care, but could not detect any organic lesion. There was no spasm of the sphincter, and she bore pressure on every part of the rectum that the finger could reach without pain, save on a spot about the size of a shilling on the left side of the intestine, rather less than half an inch above the verge of this orifice, which was so exquisitely tender that she screamed out when the finger was pressed against it. I recommended her to try anodyne suppositories, blue pill, and the carbonate of iron; but never heard whether she derived any advantage from this course of treatment.

In 1831, I witnessed another case of this kind, in the person of Mrs. E., a delicate lady, of nervous temperament, aged twenty-five. She informed me that for three years she had laboured under some disease of the anus, which commenced insidiously, and without any known cause.* She had become

* The following opinion of Montegre as to the cause of these pains may not

irritable, desponding and emaciated. Her bowels were never moved without medicine, which she had recourse to every alternate day. During the fecal discharges, and for some time afterwards, she invariably suffered the most excruciating pain, which was attended with involuntary contractions of the sphincter. For some months past, she was never entirely free from pain, and for weeks together it assumed a periodical character, gradually increasing every afternoon, and then mitigating in about three or four hours. Atmospheric changes never failed to affect her,—the pain, when stormy weather was about to take place, being most agonizing. While suffering severely, I made an examination of the parts, but could not discover any structural derangement; however, the sphincter was so forcibly contracted, as to render the introduction of my finger, not only exceedingly difficult, but painful; and one point of the gut, a few lines above the anus, on the right side, was so tender that, when I touched it, she was thrown into the greatest agony. I therefore carefully examined the parts, thinking that I might detect a fissure, but my conjecture was not realized, for the painful point in every respect

be uninteresting to the reader. "Je les regarde comme une complication qui peut survenir dans toutes les maladies longues et graves de l'anus, mais spécialement à l'occasion des récidives fréquentes d'accés hemorrhoïdaux." Again, he says, "elles succèdent souvent aux douleurs inflammatoires, et persistent encore après la destruction de la cause sous l'influence de la laquelle elles se sont manifestées."

appeared perfectly healthy. I endeavoured to relieve her by purgatives, iron, quinine, arsenic, lavements, opiate suppositories, and the introduction of meshes of lint besmeared with seven parts of spermaceti ointment, and one of the extract of belladonna; but without effect. It then occurred to me that an incision carried through the painful part and the sphincter, was a feasible means of relief. I communicated my views of the case to Mr. E., who consented to the proposed operation, which I performed with perfect success.

In 1833, I was consulted on the case of Mrs. W., which is the last that I have seen. She was about nineteen years of age, of a fragile constitution, exceedingly nervous, and for seven years had occasionally been the subject of neuralgic pains in the face. She had been married between five and six months, and pregnant for three; during the last six weeks, she was seized every two or three days with violent lancinating pains in the anus, attended, when severe, with alternate contraction and expansion of the sphincters of the most forcible and sudden character; the latter being productive of a discharge of mucus mixed with a small quantity of blood, and sometimes with feces. During these attacks she was in the habit of folding a napkin into as small a compass as possible, placing it between her buttocks and sitting on a wooden chair.* By

*Montegre, when treating of the character of these pains, says, "et alors

this expedient she found that her suffering was greatly mitigated, though she was constantly compelled to have recourse to morphine. I tried various remedies, as iron, quinine, arsenic, anodyne enemata, &c., without effect; however, upon quickening, the pain ceased, and did not return until last spring, when she was again pregnant; but upon her miscarriage, which occurred on the third month, it again vanished.

I may mention, that after this lady weaned her child, I have seen her nearly deranged with neuralgia of the face.

This case is not exactly like either of the preceding, as there was no part of the extremity of the bowel more affected than another, and the pain, which was not constant, instead of being increased, was relieved by pressure; yet that they were all cases of neuralgia, there can be no doubt.*

chose remarquable, la compression les soulage." Valpeau has expressed the very opposite opinion, (Dict. de Med. ed. 2d. tome iii. p. 282.) As these cases demonstrate, both authors are in error, and the cause has been the same in both instances, viz: an avidity to draw general conclusions from isolated facts.

* Mr. Mayo relates the following curious case of this disease: "I attended a patient with Mr. Stephenson of the Edgeware Road, who suffered from pain in the rectum. Something less than two years before this, he had a syphilitic ulcer on the penis, for which he had taken an unusual large quantity of mercury, owing to the difficulty of producing sensible mercurial action on his system. The ulcer, however, healed; but while he was recovering, and his system was yet charged with mercury, he began to experience aching pains in the incisor teeth and in the rectum. The sense of aching in the teeth and in the rectum was not constant, but would come on frequently during the day, without any assignable cause. It had lasted a year and a half, during which he remained perfectly free from symptoms of leues. This patient, who was

otherwise in good health, suffered his mind to be greatly distressed by the continuance of the neuralgia. He was anxious to try every plan which held out the least promise of benefiting him. But of all the remedies which he tried, he appeared to experience relief from one only, which was a course of sarsaparilla," (Observations on Injuries and Diseases of the Rectum. London, 1833, p. 56-7.)

CHAPTER XI.

SPASMODIC CONTRACTION OF THE SPHINCTER ANI.

In the ninth chapter it has been demonstrated, that spasmodic contraction of the sphincter ani may be produced by fissure;* while in the tenth and

* Boyer says: "En effet, la gercure de l'anus est constamment accompagnée de la constriction spasmodique des sphincters; mais cette constriction existe quelquefois sans gercure, peut-être même celle-ci n'est-elle qu'un effet ou une complication de la première. Nous avons observé bien plus souvent la fissure, ou, si l'on veut, la constriction avec fissure, que la constriction sans fissure. Nous avons trouvé entre le nombre relatif de ces deux maladies, ou de ces deux états de la même maladie, la rapport de neuf à un; voilà notre excuse. Il est probable cependant que lorsque la constriction et la gercure existent, ces deux affections n'ont pas commencé simultanément; ou la gercure a amené la constriction, ou la constriction a précéde la gercure; de sorte que l'une de ces affections seriat primative, et l'autre accessoire ou consécutive; mais je n'ai jamais vu de gercure sans constriction, et j'ai plusieurs fois recontré celle-ci sans fissure. L'incision des sphincters fait disparaître la fissure, sans qu'il soit nécessaire de porter sur elle l'instrument tranchant, on pouvrait présumer d'après cela, ce me semble, que l'affection principale est le resserrement spasmodique." (Op. cit. p. 64-5,) Dupuytren entertained the same opinion. "La fissure n'est même qu'un accident; ce qui le démontrerait c'est l'existence de la constriction douloureuse sans gercure, qui d'aprés des chirurgiens célèbres, serait à l'autre cas comme 1 est á 4." (Op. cit. p. 281.) On the other hand, Blandin, after explaining the views of Boyer, remarks: "La

fourteenth, it is proved to be occasionally the consequence of neuralgia. But besides these there are two other species of spasmodic contraction of the sphincter, viz: that which depends upon functional or structural disease of the genito-urinary organs, and that in which we cannot trace any other primary affection, either in the rectum or elsewhere.

The following outline of cases will illustrate the species of disease in which the genito-urinary organs are primarily affected.

Mr. O., a grocer, twenty-eight years of age, robust and of good habits, in 1830, being about to enter into the matrimonial state, consulted me for an affection of the urinary organs, which, from his account, I took to be stone in the bladder. I therefore sounded him very cautiously, but without being able to find a calculus. As he complained of spasmodic pain in the lower extremity of the rectum,

constriction spasmodique du sphincter arrive, parce que l'anus est irrité par l'inflammation de la fissure; elle est très forte quand la fissure est tres-enflammée, surtout elle s'accroît par le passage des matieres fécales pendant les excrétions, pour la même cause. Le sphincter anal se contracte sous l'influence de l'irritation de la fissure, comme l'estomae, comme l'intestine se contractent lors de l'irritation ou de l'ulceration de la tunique muqueuse qui les tapisse. (Op. cit. p. 157.) Sanson also, is an advocate of this opinion, "Nous croyons au contraire que la fissure, ou au moins l'irritation de la partie, procéde et provoque la constriction spasmodique." (Nouveaux Elémens de Pathologie, &c., ed. iii. tome iv. p. 227.) I shall only observe that to me it appears illogical, to assert that fissure is the consequence or a complication of spasm, because the fissure is always accompanied with spasm, and spasm sometimes exists without fissure. Now, that spasm may cause fissure, I have before explained: but, that fissure may arise from other causes, is, I think, beyond dispute.

especially when the urinary symptoms were severe and for some time after stool, I proceeded to examine this intestine, when I found the sphincter firmly contracted; however, all the parts in this region were perfectly healthy. The pain resulting from the examination of both these organs was very distressing, though the greatest possible gentleness was observed. He took pills of henbane, valerian and white oxide of zinc, according to the formula of Meglin, and inserted suppositories of opium and belladonna at bed time, while his bowels were kept easy with lenitive electuary or oil, and I injected his bladder daily with a thin solution of gum arabic and opium. His improvement was very slow, and as I found his urine to be surcharged with lithic acid, I put him upon vegetable food, ordered soda in sufficient quantity to correct the acidity of his urine, and a warm bath daily. By pursuing this course steadily for a few months, wearing flannel next his skin, and sedulously avoiding cold, he entirely recovered, then married, and since has had no return of the disease.

In 1831, I was called to Mr. M., who for five years had been afflicted with symptoms of stone, and was repeatedly sounded, both in this country and in Europe, by distinguished surgeons. When I saw him, in addition to the ordinary symptoms of stone, he had close and painful contraction of the sphincter ani; which he informed me had only set

in within six months, and occasionally was almost insupportable. His urine was loaded with acid, and deposited much mucus. Being a man of fashion, he was frequently exposed at night to cold air, from which he suffered dreadfully; indeed, if from missing his carriage, he was compelled to walk home at night, he never failed to have a marked change for the worse in all his symptoms. For some time he took the pills of Meglin without any advantage. Then I injected a solution of opium and gum water into the bladder, and ordered a liniment containing the extract of belladonna to be rubbed over the pubes and perineum. This plan of treatment being no more efficacious than the first, he consented to try the course which I first recommended, viz: Confinement to the house except when the thermometer was above 60°, vegetable diet, flannel next the skin, warm baths, lenitive electuary or oil when the bowels were out of order, soda to neutralize the acid state of the urine, and an infusion of buchu as long as a mucous sediment was deposited by the urine. By following up this course for about nine months, he entirely recovered.

Mr. A. applied to me last November on account of a hydro-sarcocele. The water was frequently let off by puncturing the tunica vaginalis with a lancet. He was put on a low diet, had leeches applied twice a week, and after the bleeding ceased, linen cloths wet with a lotion composed of sal am-

moniac vinegar and water, were kept on the scrotum. He maintained the horizontal position for five weeks, took calomel and opium in small doses, and underwent two or three courses of purging. Camphorated mercurial ointment was rubbed on the scrotum, and afterwards the gum ammoniac plaster with mercury was applied without any advantage. In consequence of the failure of the remedies now mentioned, I proposed examining the urethra, to which he acceded. While passing a steel sound in the most gentle manner, though a very reasonable person, he screamed violently, and the spasm of the canal was so great, that I could not pass the instrument into the bladder. I ordered him a warm hip bath, and an ounce of castor oil, with twenty-five drops of laudanum. As no bad symptoms followed this attempt to introduce the sound, I made three more essays, on alternate days, with no better result, the same irritation being manifested on each occasion. In the evening of the last day on which I endeavoured to pass the instrument, he sent for me, complaining of excessive irritation of the bladder. I ordered warm bathing, marsh mallows syrup with water, and a dose of morphine. He soon obtained relief; however, on the following day, he had a similar attack, which yielded to the same means, but returned at midnight. In his distress, he had a carriage called, and drove to my house, complaining dreadfully. I recom-

mended him to repeat the bathing, to continue the marsh mallows syrup with water, and to take, according to circumstances, one or two enemata, composed of four ounces of the mucilage of starch and forty drops of laudanum. At nine o'clock in the morning he wrote me a note, beseeching my attendance, as his suffering was dreadful. When I arrived, I found him moaning, and the tears flowing down his cheeks. He said that a short time after taking the injection, he was seized with violent pain and contraction of the anus, which subsided; but returned every ten or twenty minutes. The vesical pain had continued, but was mild, when compared with the other. I now ordered him a liniment containing the extract of belladonna, warm hip bathing, mustard cataplasms to the inside of the thighs, and a full dose of morphine. He experienced no relief; therefore, it occurred to me that the better plan would be to revulse on his bowels, with which view, I prescribed for him pills of calomel and cathartic extract, and afterwards a solution of Epsom salt in an infusion of senna. Suffice it to say, that his symptoms soon yielded to this plan of treatment.

Mr. H. was seized two years ago, after exposure to wet, with symptoms of vesical inflammation, which continuing in spite of remedies, and being also affected with what he was informed was stricture of the rectum, he came to New-York, and

placed himself under my care. He was emaciated and depressed. On examination, I found both the anus and rectum in a state of spasmodic contraction, (more of this case, when treating of stricture of the rectum,) the bladder and urethra in a highly irritable condition, and the urine loaded with lithic acid. I ordered him a vegetable diet, warm hip baths, soda to correct the acid state of his urine, and pills composed of the blue mass and cathartic extract, so as to produce two or three motions daily. It is now three weeks since he came to town, and he is about to return to his home in perfect health.

Wm. Birmingham, on whom I operated for stone in 1826, laboured under most painful spasm of the sphincter ani, so that he dreaded an examination by the anus, more than by the urethra.

Mr. S., whose bladder I tapped through the rectum in 1829, for retention of three days duration, caused by stricture, had so contracted a state of the sphincter ani, that I had to divide it, before I could puncture the bladder.

Mr. C., aged 81, who labours under enlargement of the prostate gland, is occasionally seized in the night with spasmodic contraction of the sphincter ani, which causes so much pain, that he becomes alarmingly weak. He is now generally aware of the approach of an attack, which he can always prevent by taking first an emollient injection, then a warm hip bath, and lastly, an enema composed of

four ounces of the mucilage of starch and thirty drops of laudanum.

The cases now about to be related are intended to illustrate the species of disease in which we cannot discover any primary affection.*

Mr. N., a robust young man and a high liver, consulted me last fall, with a view of obtaining relief from a forcible, painful and sudden contraction of the sphincter ani, which occasionally aroused him from his sleep at night, and generally lasted two or three hours. He had been subject to these attacks for eight or ten weeks, and altogether may have had a dozen seizures, for which he could assign no cause. I prescribed a vegetable diet, exercise, a warm hip bath every other night, three grains of blue pill with one of ipecacuanha at bed time, and a teaspoonful of Epsom salts in two ounces of quassia tea on the following morning. Under this treatment he soon recovered, and has not had a return of the disease.

Dr. ——, an eminent physician in this city, ex-

* Boyer, after discussing the connexion between fissure and spasmodic constriction of the sphincter, says of the latter: "Je crois qu'elle peut être, comme je l'ai dit ailleurs, congénitale. J'ai vu deux personnes chez lesquelles elle a commencé pour ainsi dire avec la vie. La liquidité, la mollesse des matières fécales, dans les primières années de la vie, rendent plus supportable leur excrétion; mais à mesure qu'on avance en âge, les déjections stercorales deviennent plus épaisses plus abondantes, les douleurs de l'anus plus aigués pendant et après la sortie de matières que chaque jour rend plus difficile. L'introduction du doigt cause une douleur très-vive; il est fortement serré; mais, sur quelque point de l'anus qu'il appuie, la douleur n'augmente pas. (Op. cit. vol. v. p. 65.)

ceedingly muscular, of a nervous temperament, and very subject to mental depression, informed me a short time since that, for seven years past he has been seized, while in his cabriolet, about every three months, with violent contraction of the anus, attended with almost insupportable suffering, which, however, soon subsided; that he was occasionally attacked during the night with paroxysms of much longer duration, but of a less distressing character; and that his feces, when solid, were of smaller dimensions than natural.

In November, 1829, I was called to see Mrs. Q., who was labouring under what she had been informed was stricture of the rectum. She informed me that in April she had a diarrhea, after which her bowels became constipated, and a train of symptoms exactly similar to that mentioned in the chapter on fissure set in, save that the feces were neither streaked with blood nor matter. She had become emaciated, restless, feverish and depressed in mind, with a firm conviction that her end was drawing near. On examination, I could not discover a fissure, nor that any one point was more tender than another; but the anus was closed so firmly, that I could only enter my finger with difficulty. I prescribed a light nutritious diet, hip baths daily, a tablespoonful of castor oil every morning, and the introduction of meshes of lint, besmeared with one part of the extract of belladonna, and seven of lard. As she did not improve under this course, I substituted

the bougie for the lint; but so painful did this remedy prove, that I had to abandon it. Then, I divided the sphincter as in fissure, the result of which was a rapid cure.

The only other case which I have seen was that of Miss D. When I was called to her last spring, the symptoms which had existed for a number of months, and had come on gradually, were precisely similar to those of the preceding case. This lady was about twenty years old, and very delicate. She had been treated very judiciously for some months, with bougies and internal remedies suited to her symptoms, without any advantage. I examined the parts carefully, but could not discover any structural disease, nor did the introduction of the finger through the contracted sphincter produce any more pain in one part, than in another. I divided the sphincter, and in less than a month she was up and well.

As the four cases now related are the only substantive forms of spasmodic contraction of the sphincter ani that I have observed, I am disposed to consider it as a rare disease,* though I have witnessed many cases in which the sphincter was somewhat contracted, particularly in costive habits; but from the absence of pain, even when the finger was cautiously introduced, I should think it improper

* Doctor Baillie saw but one case. (Transactions of the College of Physicians of London, vol. v.) In like manner, Mr. Colles witnessed but one case. (Dublin Hospital Reports, vol. v. p. 119. Dublin, 1830.)

to class them with the affection now under consideration.*

* Some may object to the arrangement of the two last chapters; but in extenuation of my plan, I would say, that though future experience may lead to a different classification, I am almost certain that the cases are so grouped, as to render them most useful, and, therefore, most likely to serve the purposes of some future writer on this subject.

The import of the word neuralgia, is too well understood to need any explanation from me. That the cases I have described under this head, merited such a place, will scarcely be doubted; but whether those described under the title of spasmodic contraction of the sphincter ani, should not be placed under the same head, is the question. I would just remark, that I think they ought not to be so arranged; because neuralgia of the anus can not only exist without contraction, but with relaxation of the sphincter; and it is no reason because contraction of this muscle is sometimes combined, and in such cases, is in all probability the consequence of neuralgia, that spasm of the sphincter, because painful, merits the appellation of neuralgia. I am disposed to think, that it would be as reasonable to style fissure, neuralgia of the anus, or cramp of the gastroenemius muscle neuralgia of the leg, as to class all the cases I have narrated under the head of neuralgia. Though this is my present opinion, when I see a better version given of the subject, I shall be the first to adopt it.

CHAPTER XII.

ULCERATION OF THE RECTUM.

In the chapters on laceration and fissure, ulceration of the rectum has been treated to a certain extent; a course which, from the nature of the subject, could not be well avoided. It, therefore, only remains to consider the ulceration which may arise from inflammation, the entanglement of feces in the lacunæ, the venereal poison, and malignant deposits. I now merely purpose to treat of the disease, as produced by the two former, and shall reserve a description of it, when resulting from the two latter, for subsequent chapters.*

In this, as in similar affections of other organs, there are three circumstances to be considered: firstly, the influence of the cause which produces it; secondly, the state of the constitution; and, thirdly, the situation it occupies. Thus, when it arises

* In chronic dysentery, the follicles and mucous membrane of the rectum are generally ulcerated; but as this disease belongs to the province of the physician, it would be foreign to a work of this description.

from the entanglement of feces in the lacunæ, it is of moderate size, somewhat circular, deep, and surmounted by an indurated brim. In a sound constitution, though sometimes pretty extensive, it is generally superficial and without induration. In unhealthy persons it becomes inactive, and sometimes phagadenic. Finally, when within the limits of the sphincters, it is exquisitely painful, and the system sympathises as in fissure.

The symptoms of this disease, are pain, a sense of weight in the sacral region extending to the loins, vesical irritation, tenesmus, the discharge of a thin bloody fetid pus from the anus, besmearing of the feces with the same,* smarting, and even acute pain in the rectum, invariably increased by defecation; and, when the ulceration extends low down, spasm of the sphincters with the other concomitants mentioned under the head of fissure.

If the finger be introduced, the ulcerated surface may be detected by its roughness; but the better plan is to dilate the anus with the speculum,† when the situation, extent, form and character of the dis-

* Mr. Colles says: "At times, the quantity of the discharge is much lessened, and then the sufferings of the patient are aggravated; but on the flowing off of a larger quantity, he experienced great relief." (Op. cit. p. 156.) This I have not observed; indeed, in the last case specified in this chapter, the pain has always been most severe, when the discharge was most abundant.

† Mr. Colles recommends a blunt polished gorget, with its concavity looking towards the seat of the disease, to be passed upon the finger into the rectum; then by everting the anus as much as we can, we shall obtain a full view of the ulcer by the light reflected from the gorget. (Op. cit. p. 156.)

ease can be easily determined. In many cases, however, nothing more will be necessary than to separate the buttocks, and press apart the edges of the anus with the fingers.

Ulceration of the rectum is difficult to heal: firstly, because, from the absence of valves in the portal system, and the depending situation of the hemorrhoidal veins, they are loaded with blood, a condition which is still further increased by the accumulation of feces in the lower bowels and the action of the sphincters; secondly, because the passage of the feces contuses, and stretches the ulcerated surface; thirdly, because, if the ulceration be within the limits of the sphincter, it is not only unduly compressed, but puckered; fourthly, because the plicated condition of the mucous membrane, and the action of the sphincters, prevent the proper adjustment of suitable applications; and fifthly, because we are unable to make pressure, a most efficient remedy in similar diseases of other parts.

All ulcerations in this region require the recumbent posture, a diet affording the least excrementitious matter, and emollient enemata. If there be fullness and throbbing in the anal region, leeches should be applied; and, if there be much general excitement, phlebotomy may prove serviceable; but the cases in which one or the other may be required, are very few indeed. When the general health is impaired by other diseases, or improper habits, it should be improved by appropriate means; and

when there is great irritability, anodyne combined with sudorific remedies may become necessary.

When the ulceration is not extensive, and unattended with urgent symptoms, it will generally heal under the treatment just mentioned, and the application of the nitrate of silver, or of stimulating ointments, to which, if there be spasm of the sphincter, belladonna may be added, and, if there be much pain, opium. If, however, it be more extensive, painful, and attended with severe spasmodic contraction of the sphincter, no application will prove of any avail without the division of the sphincters, and of the ulcer, when practicable; a remedy which, when followed by proper dressings, insures a rapid cure. By this operation, the sphincters cease to exert any influence on the circulation of the rectum, the great pain arising from their contraction abates, the ulcerated surface no longer suffers from the pressure which they were wont to exercise on it, the congestion is removed by the hemorrhage which ensues, the ulcer is converted into a wound, and we are enabled to make applications to the diseased parts. Finally, when it attacks many points of the rectum, and extends high up, it will generally terminate fatally, especially in bad constitutions, in spite of the most judicious measures.

The following cases are examples of this disease.

Mr. S., a high liver, asked my advice, in November, 1832, on account of a smarting sensation in the rectum, attended with purulent discharge and pain

in defecating, which he had laboured under for nearly two months. I examined him, and detected an ulcer, about the size of a sixpence, situated about an inch above the verge of the anus. This ulcer was superficial, covered with a whitish, tenaceous matter, and surrounded by a fiery red edge. I cauterized it, enjoined a light diet, the recumbent position, and an enema daily. A rapid recovery ensued.

Mrs. —, a lady of middle age, delicate frame, and subject to attacks of mucous diarrhea, became affected, in July, 1829, after one of these visitations, with superficial and extensive ulceration of the rectum, in two patches, one on either side, situated immediately within the anus, and attended with profuse purulent discharge, sense of weight in the sacrum and loins, tenesmes, irritation of the bladder, painful defecation, and slight spasm of the sphincter. After suffering for three weeks, and using empirical remedies recommended for piles, she consulted me, when I examined the rectum, and discovered the nature of her disease. I directed her to lie on a couch, live on arrow root and animal broths with rice. I injected her bowels with flaxseed tea, and then passed a cane of the nitrate of silver slightly over the ulcerated patches; after which, I injected four ounces of the mucilage of gum arabic rubbed up with two grains of the extract of belladonna, and ordered it to be repeated every six hours. Finally, I directed her to take one grain of calomel, two of

rhubarb and a quarter of ipecacuanha, every six hours. On the fourth day her mouth became tender; after which a pill was taken but once in twelve hours. This course was pursued for eleven days, at the expiration of which period, the ulcerated parts had healed.

In July, 1826, Capt. H. consulted me for what he called the piles. He said that during ten weeks previously he had a discharge of bloody matter from the anus, pain in the rectum, greatly increased at and after stool, vesical irritation, and weight in the sacrum and loins. I examined him, expecting to find a fissure, but discovered an ulcer, of a circular form, as large as a shilling, situated above the sphincter, on the right side of the intestine, with indurated edges and a foul surface. The recumbent position and a light diet were adhered to, the bowels were kept open with emollient injections, and a variety of stimulating and anodyne applications were made in vain. It then occurred to me, that the division of the sphincters, as practised by Boyer in cases of fissure, would be a justifiable operation. I therefore performed it, including the ulcer in the section, and then dressed the wound from the bottom. The pain immediately subsided, the wound healed kindly, and in one month he had perfectly recovered.

In the fall of 1831, I was called to visit Mr. M. He informed me that for seven months previously he had suffered from pain, at and after stool, which

being accompanied with purulent discharge from the anus, led his physician to make an examination, which resulted in the discovery of an ulcer, about the size of a shilling, on the right side of the gut, above the margin of the anus. Various applications were now tried, but without any advantage, for the disease steadily increased; therefore, Mr. M. visited New-York, with the view of obtaining professional aid. For three months before I saw him, he had been treated here, still the ulceration increased. He informed me that during stool, he suffered the most excruciating torture, and for a few hours afterwards the grasping and burning pain, as he described it, was so acute, as on many occasions to elicit the strongest expressions of suffering. He said that two hemorrhoids had existed, and were removed by his previous medical attendant; that he had been leeched very extensively, and had counter-irritation established on his abdomen and lower extremities by tartar-emetic ointment and issues; that he had been kept on a low regimen, and had taken medicine to act on the bowels, alkalies, &c.; and, finally, that he had many applications made to the diseased part without any advantage,—on the contrary, his legs had become œdematous, he had emaciated, the ulceration had extended, and his sufferings were invariably aggravated by the applications made. He was a man over the ordinary size, had been fleshy, apparently about 50 years of age, and subject to gout.

By interrogation, I ascertained that his stools occasioned most pain when firm or liquid, and least, when in an intermediate state; being then small and flattened.

On examination, I found that the sphincter ani was so firmly closed as to offer considerable resistance to the introduction of the finger; and when, after much difficulty, I succeeded in this effort, the muscular contraction was more violent than I have ever known it to be in any other case. He suffered dreadfully, but I persevered, and found that a considerable portion of the right side of the gut was rough, from the verge of the anus, for an inch or more in a vertical direction. I was not, however, satisfied with this examination; therefore, on the following day, I dilated the anus with a speculum, and found that the extent of surface which felt rough, was ulcerated, inflamed, and partially covered with flakes of lymph. I now proposed to remedy the disease by operation, to which he consented; therefore, on the following dayI divided the sphincter, and applied the usual dressings. It is sufficient to state that within the month he was quite well.

Mrs. —— was placed under my care in August, 1834: for a long time she had suffered from piles, her health was impaired, and she was in the habit of taking cathartic medicine. Ten days before I was called in attendance, she complained so much of pain in the rectum and anus, that, at her request, her husband examined the parts, and discovered an

ulcerated point on the right side of the bowel, immediately within the skin, and between two hemorrhoidal tumours. The ulcer must have spread very rapidly, for when I first saw her, it had extended vertically for half an inch, and encircled nearly two thirds of the extremity of the intestine; being excavated, with jagged and livid edges, devoid of granulations, covered with an ash coloured, tenaceous matter, and surrounded by a deep inflammatory blush. She was weak, her bowels were confined, her face was flushed, skin hot, and tongue parched, being brown in the centre, with a fiery red state of the margin and point. The pain in the diseased part was severe, and became excruciating during and for several hours after defecation.

Having freely evacuated the bowels by means of enemata, I touched the surface with a swab soaked in nitric acid, the action of which I limited by the application of a solution of alkali. I then introduced my finger into the rectum, and on it passed the knife in the usual way, and divided the sphincter, after which, I dressed the wound from the bottom. This being accomplished, I placed an emollient poultice over the parts affected, and administered ten drops of the solution of morphine. The pain soon subsided, and sound sleep ensued. In the evening, the poultice was changed, and ten more drops of the solution of morphine were taken. On the following day the poultices were renewed twice, and I ordered her to take five grains of

Dover's powder every six hours, and to live on arrow root and animal broths. While removing the poultice on the morning of the fourth day from the operation, the lint came away from the wound, which looked perfectly healthy; and the thin slough created by the nitric acid had begun to separate. Having washed the lower bowels out with flaxseed tea, I dressed the wound afresh with dry lint, and the sloughy surface with dossils of lint saturated with equal parts of balsam copaiva and castor oil. As the Dover's powder had greatly composed her, and she had derived strength from the arrow root and beef tea, I ordered her to continue them, and to take calf's foot jelly, as she desired it. This plan of treatment was continued, with the exception that when the slough was detached, the ulcerated surface was dressed with a solution of nitrate of silver, until the parts had healed.

I have at this moment, a gentleman from Mexico under my care, who, eighteen months ago, after exposure to wet and cold, was attacked with pain in the rectum, attended with tenesmus and mucous discharge. To be short, after trying various remedies, he came to New-York a few weeks since, and put himself under my care. He was emaciated, sallow and dejected. He had constant purulent discharge from the rectum, pain, tenesmus, and obstinate constipation of the bowels. The rectum was studded with many small deep ulcers, and strictured about three and a half inches

from the anus, so as barely to admit the passage of the finger. His diet has been light and nourishing. He has taken small doses of rhubarb, blue pill and ipecacuanha, and large quantities of the syrup of sarsaparilla. The stricture has been considerably dilated, and a weak solution of the sulphate of zinc injected into the intestine. Under this treatment he has rather improved, though, from the abundance of the purulent discharge, I fear the rectum is ulcerated above the stricture, and consequently that the result will be fatal.

I have seen a case, where death resulted from many small and deep ulcers in the rectum. The patient had been treated for dysentery in India, but on examination after death, the colon appeared healthy.

CHAPTER XIII.

VENEREAL ULCERATION OF THE RECTUM.

This species of ulceration may arise from the direct application of venereal poison, or it may be consecutive to disease in the genital organs, and then co-exist with other secondary symptoms.

The character of the ulceration, whether primary or secondary, varies as in other mucous or dermoid tissues, with this exception, however, that the plicated arrangement of the latter in the anal region, renders the ulcers situated between its folds, of an oblong form; a circumstance which has obtained for them the appellation of rhagades. Should these ulcers be superficial, their edges regular and soft, and their secretion healthy, they will heal rapidly; but on the other hand, should they be deep and painful, surmounted by hard irregular edges, and secrete a thin fœtid matter, they will not heal easily, and may become phagedenic.

When extensive, this species of ulceration may

destroy life. In many cases, the recto-vaginal partition in the female, and the recto-vesical in the male, is perforated. Provided the opening be small, a spontaneous closure may ensue; but, this is a very rare occurrence.*

What has been said with regard to the symptoms and treatment of pure ulceration of the rectum, is applicable to the impure form now described; but, in addition, antisyphilitic remedies will become necessary.

* Cullerier has seen two cases, in which the fistulæ closed spontaneously. (Boyer, Op. cit. p. 78.)

CHAPTER XIV.

AFFECTIONS CALLED HEMORRHOIDAL.

In consequence of causes hereafter to be mentioned, the vessels of the rectum become preternaturally distended with blood, which state either subsides after a few days, gives rise to hemorrhage, the formation of tumours at the anus, inflammation, or mucous discharge.*

This conjestion is generally manifested by a sense of weight and fullness in the rectum and perineum. Generally, however, some of the following symptoms are present: rigors,—rigidity and occasional spasm of the extremities,—pallor,—dinginess of the skin beneath the eyes,—cold, strictured and dry skin,—weight and pain in the forehead,—vertigo,—dryness of the fauces,—white tongue,—

* Several years ago, the talented and lamented Montegre demonstrated that, a determination of blood to the rectum was the substantive disease, and that hemorrhage, tumors, &c., were the consequence of it. (Des Hémorroïdes, ou Traité Analitique de Toutes les Affections Hemorroïdales. Deuxieme edition. Paris, 1830.)

vomiting,—temporary augmentation of the liver,—flatulence,—pain in the abdomen,—constipation,—scanty and colourless urine,—increased velocity, hardness and contraction of the pulse,—precordial anxiety,—palpitation,—stricture of the epigastrium,—syncope,—hurried respiration,—a feeling of weight in the loins, hips and groins,—dull throbbing pain in the rectum, attended with a sense of increased heat, tenesmus, mucous discharge, and occasional darting sensations resembling those of electricity,—itching of the anus,—and finally, painful, difficult and frequent micturition.

It generally happens that a similar condition of the hemorrhoidal vessels occurs from time to time, and scarcely ever fails to give rise to one or other of the accessary phenomena before mentioned, and which we shall now consider.

Hemorrhage. The bleeding usually occurs during defecation, sometimes preceding, but generally following the passage of the feces. Frequently, the loss of even a small quantity of blood relieves the feeling of weight and tension in the perineum, rectum and lower part of the back, as well as any other disagreeable symptoms which may have existed. The amount of hemorrhage, however, is not always in proportion to the severity of the symptoms denoting the loaded state of the hemorrhoidal vessels,—the quantity being sometimes very great, though not preceded by well marked premonitory signs; while, in other cases, the discharge of blood

is trifling, notwithstanding the fluxionary movement may have been well marked. Generally it ceases after a few days, yet not unfrequently, it continues for months. In some instances, it occurs but once in life; again, it may return in the course of a few weeks, months or even years. Occasionally, it assumes a periodical character, returning with the season or the month.

The amount of blood lost varies; a drachm, an ounce, or even a pint may be discharged at a time, though it must be confessed that, the admixture of other fluids is apt to impose, upon the inexperienced, the belief that the loss of blood is much greater than it really is.*

* Montanus, according to the report of Schwevcher, saw a patient who had passed two pounds of blood for forty-five successive days, and finally recovered. (*Append. consilior. Montani*, p. 59. *Basil*, 1588.) Cornarius mentions the case of a gentleman who, after drinking freely of Hungarian wine, lost two pounds of blood from the nose, and six pounds on each of the four following days from the anus. Nevertheless, he got well without any remedy. (*Observ. med.*, 26.) Pomme gives the case of a man thirty-six years of age, of an atribilious temperament, who for a long time had been subject to an excessive hemorrhoidal flux, for which he had tried many remedies, without obtaining relief. At length, having adopted the idea that it had a venereal origin, he underwent an antisyphilitic course of treatment, in consequence of which, the flux disappeared. However, he was soon attacked with distressing symptoms of cholera, when the hemorrhage reappeared. During a month, he lost nearly a pound of blood daily, which was followed by colic pains and swelling of the face and extremities. By a generous diet, nutrient injections, and cold baths, the hemorrhage was arrested, and exercise on horseback rendered him convalescent. (*Trait s des maladies Vaporeuses.*) Lanzoni cites the case of a priest, who daily passed a pint of blood per anum. (*Consult. med.* 97. *Oper. t.* 2. p. 203.) Ferdinand says that a girl twenty years of age, of a sanguineous temperament, sedentary habits, and endowed with much vivacity, in consequence of violent chagrin, arising from jealousy, became affected with

The blood evacuated, is of a bright vermilion colour, and is exhaled by the extremities of the ca-

hemorrhoids, and for many months daily evacuated about half a pint of blood while at stool. The menstrual discharge ceased, her face became pallid and œdematous, and she was rendered so weak, as to be unable to walk; nevertheless, under proper treatment she perfectly recovered. (*Hist. med.*, 16. p. 40.) Panarola knew a Spanish nobleman who, for forty years, rendered each day a pint of blood *per anum*, and at the same time enjoyed perfect health. (*Observ. med. pentec.* 2. *obs.* 46.) Harris says that a widow of meagre frame and bilious temperament, lost upwards of four pounds of blood from hemorrhoids, in a few hours; during the night, she had nearly died from exhaustion; however, the bleeding was arrested by the application of cloths soaked in spirits of wine. (*De Morbis Aliq. Gravior. Obs.* x.) Bozelli mentions the case of a tailor, who lost as much as ten pounds of blood at a time. This man was nevertheless vigorous and of a jovial character. Bozelli diminished this flux by means of the syrup of roses. Spidler saw a potter, who after having suffered for a week with pain in the loins, was seized with violent colic, and severe vomiting. A cathartic was administered, which relieved him; but he passed from twelve to fourteen pounds of vermilion coloured blood from the anus, in twenty-four hours, each dejection being accompanied with a slight colic pain. After many remedies were tried in vain, the hemorrhage was arrested by a stimulating injection. (*Observ. med.* 44.) Hoffman says he saw a widow, fifty years old, of a very full habit, who in consequence of an indolent course of life and full living, was for eight years subject to hemorrhoids, at the same time she continued to menstruate. The uterine discharge having ceased, and being blooded but once, she was seized, towards the autumnal equinox, first with lassitude, and then with coma, for which she was bled in the foot, and took cold water in large quantities without any benefit. At the end of two days, however, a stimulating lavement was administered, when an excessive flux of blood occurred, amounting in twenty-four hours to more than twenty pounds; the consequence of which was, a cessation of the coma. Her strength gradually returned by the employment of invigorating and gently astringent remedies, together with enemata of cold water. Smetius relates the case of a man forty years of age, who passed per anum at least thirty pounds of blood in two or three days. He was cured by a tonic plaster. (*Miscell. med.* l. 4. *epistol.* 9. p. 222.) Finally, Pezold speaks of a Saxon chevalier, who in one attack lost sixty-four pounds of blood. (*Obs. med. chir.* 51.) *Montègre*, *Op. cit.* p. 27. There can be no doubt in the mind of any rational man, but that these statements abound with exaggeration.

pillary vessels, as may be demonstrated by an examination of the mucous membrane when protruded, an occurrence which very often takes place in these cases. In some instances, fine streams of blood are seen to issue from dilated pores, which we are afterwards unable to detect. Besides this evidence of the source of the discharge, the symptoms which precede the flow of blood, their subsidence on the occurrence of hemorrhage, together with the colour of the blood, plainly demonstrate the nature of the attack. However, when the bleeding has been profuse, the vessels may become so debilitated, as to allow the blood to escape from their extremities, constituting passive hemorrhage.

This flux, by presenting a determination of blood to the organs essential to life, wards off fatal disease, and, therefore, its suppression is attended with imminent risk. The nervous temperament, predisposition to disease in some other organ, particularly if the morbid action has already commenced, or if the organ is in sympathy with the rectum, the application of heat or cold, depressing passions, wet feet, fatigue, profuse perspiration, vomiting, hemorrhage from some other part, phlebotomy and the application of astringents, are the causes which suppress this discharge, and consequently give rise to colic, fever, inflammation, hemorrhage, organic lesions, and nervous complaints. Both ancient and modern authors abound with such cases, and from my own observation, I shall furnish a few, in a sub-

sequent part of this chapter. There are two, however, which proved fatal, and accordingly are well suited to this place. A gentleman between fifty and sixty, of short statue and full habit, who for many years had been subject to a profuse discharge of blood from hemorrhoidal tumours, underwent an effectual operation for their removal, and died in seven months afterwards of apoplexy.

Another gentleman, under thirty, for a few years laboured under a free hemorrhoidal discharge, which, as it debilitated him, was checked by astringents. In a short time, however, he was attacked with pulmonary hemorrhage, and at the end of a year and a half, he sunk, after a profuse discharge of blood.

The diseases with which the hemorrhoidal flux may be confounded, are disentery, scurvy, and hemorrhage, either from the small intestines or stomach.

In dysentery there is high fever, abdominal pain, and the blood is blended with muco-feculent matter, while in the hemorrhoidal affection there is no fever, the abdominal pain, if present, is much less severe, and the blood is not mixed with the feces.

When blood is evacuated per anum in a person labouring under scurvy, other symptoms of this disease are present, for it only occurs during the termination of severe cases, and it is necessarily of a passive character.

In the flux, which has its source in the small in-

testines, the blood is generally mixed with the feculent matter; but when in large quantities, it is more or less pure. Such cases, however, are not preceded by weight in the loins and perineum, nor by fullness, pain and throbbing in the rectum.

Finally, in gastric hemorrhage, the blood discharged per anum, is decomposed, grumous, fetid, black and mixed with other matter.

Tumours. Generally, after the blood has accumulated immoderately in the rectum several times, but occasionally as the result of the first conjestion, especially, when there has been no hemorrhage, tumours form, in consequence of the opposition offered by the structure of the rectum, to the escape of the blood.

These tumours may be divided into two classes, the first is situated within, and the second, immediately without the anus.

Those situated immediately within the anus, vary in number, in many instances being so numerous, as to prevent the free discharge of feces, while in other cases, they are few, even solitary. Their size is as variable as their number, differing from that of a small pea to a pullet's egg. (See plate ii. fig. ii.) They are generally globular, and in many instances pedunculated, particularly when large, and subject to prolapse during defecation; for under such circumstances, they swell and suffer a constriction at their bases, from the contraction of the sphincter. Generally, they are of a dark red

colour, and when prolapsed, they become perfectly livid, in consequence of the obstruction created to the return of the venous blood; firstly, by the forced expirations necessary for the act of defecation, and secondly, by the constriction of the sphincter. (See plate ii. fig. i.)

I have repeatedly injected these tumours with coloured water, both from the arteries and veins, and when cut into while the fluid was projected, small jets were observed to issue from many points. I have frequently dissected them with the greatest care, and found that they were spongy, reddish, and contained both arteries and veins, the latter being most capacious, but always perfectly healthy. (See plate ii. figs. iii., iv. and v.) Their surface is villous, and generally bleeds when touched roughly, or scratched with the nail, the blood which issues being of a florid red colour. In many instances, I have been able to rub off exceedingly vascular and fragile adventitious membranes from their surface. Thus, it would seem, that they may acquire an increase of magnitude in this way.*

* The writers on hemorrhoidal tumours, may be divided into two classes. The first consider them as varices, while the other ascribe to them a different origin. One might suppose that the question could be easily solved; but, to accomplish such a task is no easy matter, as may be deduced from the fact, that both classes can number some of the ablest men in the profession.

Hippocrates, who considered them as dilatations of the extremities of the veins, did not derive his opinion from dissection; but from the absurd notion that they served to evacuate the black bile or melancholic humour. (ΠΕΡΙ ΑΙΜΡΡΟΙΔΩΝ—De Alimento liber—De morbo vulg.) Galen, (Ascriptæ finit. Medio, in fine isagog. lib.) and Celsus (lib vi. 9. p. 323, also

When these tumours are small, they are generally attended with slight heat and itching, but as they enlarge they produce a disagreeable sense of full-

lib vii. 3. p. 396. Edin. MDCCCXXXI.) merely reechoed the opinion of Hippocrates respecting their structure. In fact, the different authors who succeeded Hippocrates maintained his opinions, not only as to the structure, but also as to the office which he ascribed to these tumours. (Forestus, l. 23. Obs. 345.—Ludovicus Mercatus, tome i. l. 3. cap. 17. p. m. 320. and tome iii. l. 1. cap. 15, p. m. 177.—Vidus Vidius, tome iii. lib. 2. cap. vi. p. m. 117.—Victor Trincavellius, opp. tome i. lib. 9. cap. 14. p. 266.) Nor was it until the memorable Harvey discovered the circulation of the blood, that the absurd notions respecting the functions they performed was dispelled. A more correct system of physiology being now introduced, pathologists began to render their science more perfect, by calling anatomy to their aid; and among other investigations of vast importance, they took up the subject of hemorrhoids, and established a doctrine pertaining to their formation, still adopted in its principal features by some of the ablest men. Wiseman, surgeon to Charles the Second, was the author who fully described this doctrine. (Chirurgical Treatises, third edition, London, MDCXCVII. p. 208.) De Hean, who advocated the new doctrine, asserted that the bleeding from the external veins, depleted the system generally, while that from internal, only acted on the portal system. (Thes. pathol. de hemorrhoidibus, c. i.) However ingenious these axioms may appear, the anatomist who is acquainted with the anastomosis of the veins in this region, will reject them as fanciful, and originating with a studious man, regardless of the limits which dissection imposes on the theorist. Alberti, though not much of an anatomist, still turned to account the discoveries of Vesalius, Veslingius, Verheyn and Bartholinus, in proving that the internal hemorrhoidal veins were derived from the inferior mesenteric, while the external were branches of the hypogastric, and thus the opinions of De Haen, for a time, seemed so rational, that it met with but little opposition. (Tractatus de hemorrhoidibus, Halæ, MDCCXXII. cap. v. p. 74.) Stahl, Hoffman, Booerhave, Lieutaud, Morgagni and Petit, with other celebrated men, believed that they were varices, and the weight of their names, added to those already quoted, has created such an impression in favour of this opinion, that it will not be readily removed. Those, however, who have studied pathological anatomy, will be but little disposed to submit to my authority, which is not derived from it; therefore, the testimony of Jobert (Traité des maladies chirurgicales du canal intestinal, tome i. p. 138. Paris, 1829.) and Dupuytren (Lecons orales, tome i. p. 341. Paris, 1832.) is alone worthy of the attention of the modern pathologist, since these gentlemen derived their opinions from dissection. However much respect we may enter-

ness in the lower extremity of the rectum, and are prolapsed during defecation, after which they gradually shrink up, and by the action of the muscular apparatus of the anus are returned to their original situation. In some cases, however, the sphincter becomes more or less relaxed, and these tumours in descending drag along with them a portion of the adjacent mucous membrane. Indeed, so large is the protrusion, that persons thus afflicted are compelled to return it with their fingers, and many of them postpone the calls of nature, until

tain for the assiduity of Jobert, and the great surgical acumen of Dupuytren, we hold at least an equal admiration for those who have denied the varicose character of hemorrhoidal tumours, and whose names, with a reference to their writings, we shall now subjoin. Le Dran, (Traités des operations de Chirurgie, p. 228. Paris, MDCCXLII.) Cullen, (Practice of Physic, vol. I. p. 485—932. Edin. 1812.) Recamier, (Essai sur les hemorrhoides. Paris, 1800, in 8vo.) Abernethy, (Surgical Works, vol. ii. p. 240, new edition. London, 1830.) De Larroque, (Traité des hemorrhoides. Paris, 1812, in 8vo. p. 61.) Chaussier, (Dissertation sur les hemorrhoides, par Lavedan. Paris, 1814. p. 12.) Cruveilhier, (Essai sur l'Anatomie pathalogique, tome ii. p. 146. Paris, 1816.) Delpech, (Précis Elémentaire des maladies réputés chirurgicales, tome iii. p. 262. Paris, 1816.) Boyer, (Traité des maladies chirurgicales, tome v. p. 28. Bruxelles, 1828.) Kirby, (Observations on the treatment of certain severe forms of hemorrhoidal excrescence. London, 1817. p. 39.) To which list we may add the immortal Laennec and Beclard. Perhaps here, also, we might insert the names of Richter, (Anfangsgr der Wandarzn. t. vi. p. 395.) and Ribes, (Memoirs de la Société Medicales d' Emulation, tome ix. p. 109. Paris, 1826.) who though they admitted the varicose state of the veins, yet considered the extravasation of blood as properly constituting hemorrhoids.

Those who desire to become acquainted with the peculiar opinions of each of these authors, had better refer to their works, for to state them here would be out of place, to abreviate them would be unjust, and to analyse them a useless undertaking. In the text, I have briefly described the result of my own researches, without bias for any peculiar theory.

they are about to retire for the night, in consequence of the difficulty they experience, and the time they require, to reduce it, and above all, as they can only effect this in the horizontal position. In many cases, the protrusion occurs, when the patient walks, or even attempts to ride in a carriage, and thus given rise to great uneasiness and mucous discharge. Besides the protrusion of the mucous membrane now described, that of the pouch frequently takes place from the constant nisus these tumours are apt to create.

In a few cases, when there is but one tumour, it is situated low down, and though not large, partially projects through the sphincter and gives rise to very great annoyance. In a case of this kind on which I operated a few days since, the mucous discharge was very considerable, the surrounding parts were much engorged, and the patient not only suffered from the friction which his clothes exercised on the tumour, but also from a constant teasing nisus, with, occasionally, irregular and painful contraction of the sphincter. However, the relief which he obtained from the removal of the tumour, was immediate and permament.

In consequence of the irritation and pressure of the feculent matter, as well as the effort necessary to dislodge it, blood accumulates in the rectum during defecation, so that though there has been no previous hemorrhage, these tumours may exhale blood, and in such cases, it very often happens that

it is squirted out from one or more dilated pores.* Sometimes, though rarely, these tumours do not bleed for weeks or months; but I never yet have seen a case in which they did not bleed at some time. Generally, indeed, when they exist, they are the source of the sanguineous discharge which occurs, though previous to their appearance the mucous membrane, as before pointed out, gave rise to it, and a most extraordinary fact, which I have verified repeatedly, is, that, when they have been removed, the mucous membrane has again become the organ for throwing off the super-abundant blood.

When we consider the stricture and situation of these tumours, we ought not to be surprised, that they very often become inflamed, increase much in size, are attended with great pain, muco-purulent discharge, and disorder of the urinary organs. (See chapter vi.) In this state, provided the tumefaction be great, the patient feels as if there were foreign matter in the rectum, straining ensues and they are prolapsed, now, the sphincter becomes affected spasmodically and presses on their radices, giving rise to great suffering. The inflammation may subside in one, two, or three days, and then these tumours will either recede of themselves, or the patient be able to return them in the usual manner; but it

* Some authors seem to think that varicose veins entwine themselves around these tumours, and give rise to hemorrhage by rupture of their tunics. This I will not deny, but I must say that I have not witnessed such an occcurrence.

sometimes happens that the sphincter contracts with so much force, as to strangulate them, and cause mortification; an event which generally effects a radical cure, though a few cases are recorded in which the issue therefrom was mortal. Of four cases of this kind which I have seen, three terminated favourably, and one fatally.

It not unfrequently happens, that in consequence of inflammation in these tumours, small abscesses form in them, attended with a discharge of purulent matter from the anus, and more pain and irritation of this part than usual. Such ca ses are far from being uncommon, and are too often overlooked. To detect these small fistulæ, the finger ought to be cautiously introduced, and after a little exploration, a small depression, marking the fistulous orifice, may be discovered on each tumour thus affected. But should this attempt fail, the buttocks ought to be forcibly separated by an assistant, while the patient bears down; then, with a strong light and a probe of small size, the sinus will be easily found. In the majority of cases, but one tumour is fistulous, though, I have occasionally seen two or more so.

Occasionally, these tumours are attacked with ulceration, and in such cases, it generally seizes on many points at the same time, but seldom advances to any great extent. I have, however, seen a case in which three very large hemorrhoidal tumours were one half consumed; and in the twelfth

chapter, page 138, I have related another, which is interesting on account of the phagedenic character of the disease. Hemorrhage is sometimes the result of the ulcerative process, as I had an opportunity of observing in the two following cases: Mr. C., a gentleman advancing in life, of full habit, and subject to hemorrhoids for many years, during a salivation, which resulted from the mercureal treatment of a severe fever in the West, was attacked with more than usual uneasiness and purulent discharge from the rectum while at stool. In a few days he began to bleed, and so much did this increase, that he repaired to New-York, and became my patient. He was very low from loss of blood, and distressed in mind. I made a careful examination, and found four hemorrhoidal tumours, one of which was as large as a peach stone, and ulcerated deeply. When he strained, all the tumours were prolapsed, and florid blood issued freely from the ulcerated surface. I removed the tumours, and he soon regained his health. The other case was that of a planter from Louisiana, who arrived here this summer, on his way to Paris, to be operated on; but so low was he when he reached this city, that he felt unable to proceed, and, therefore, sent for me, and had the operation performed. In this case there were several ulcerated points on each tumour, and though they were superficial, the hemorrhage from them was very brisk. Notwithstanding I have seen several cases of ulcerated hemorrhoidal

tumours, those are the only ones that were hemorrhagic, and this I am inclined to attribute to the condensation which they generally undergo from repeated attacks of inflammation, previous to the commencement of the ulcerative process.

Though these tumours maintain their spongy structure for years, yet it occasionally happens that, from constant irritation they become transformed into a semi-cartilaginous mass, being firm, yellow, and nearly bloodless. I saw a case of this kind some weeks ago in a lady, who visited New-York for the purpose of having them removed. I performed the operation, and two of the tumours are represented in plate ii. fig. vi. and vii.

In some cases when we cannot detect any other lesion, and these tumours appear perfectly free from engorgement, the patient, who is generally of a nervous constitution, is affected with contraction of the sphincter ani and exquisite pain, which, when violent, extends to the uterus, vagina and external organs of generation in the female, to the perineum and testicles in the male, and to the bladder and urethra in both sexes. The constant tenesmus, strangury and dysury which it produces, wears the patient down, giving rise to sleeplessness, anxiety and fever, and in some rare cases, so excruciating is the pain, that the patient must remain perfectly tranquil, as the least motion exasperates his suffering to an intolerable degree. As these cases are not of common occurrence, the three following may prove interesting.

In September, 1832, Mrs. ——, aged twenty-nine, of spare habit and light complexion, called me to see her, when she gave the following history of her case: In 1829, she began to menstruate irregularly and scantily, but lost blood occasionally from hemorrhoidal tumonrs, which were very painful. In 1820, she first experienced some difficulty in micturition, attended with shooting sensations in the vulva, which towards the end of the year became very distressing; notwitstanding, she married, but so great was her suffering that she was seldom able to cohabit, and only with exquisite pain. In 1825, her husband died, and then she menstruated more profusely, yet irregularly, while the hemorrhoidal discharge diminished, the pain became far less, sometimes disappeared altogether, but occasionally returned with severity, attended with frequent and distressing calls to void urine, tenesmus, small mucous discharge, and firm contraction of the sphincter. During these attacks, the hemorrhoidal tumours were swollen, but when they began to bleed freely, the symptoms moderated. It frequently happened, however, that this did not occur, but that the uterine flux set in, which also moderated the symptoms, but not at all to the same extent. Being about to make an advantageous match, she was desirous to obtain relief if possible; therefore, she willingly submitted to an examination, which led to the detection of five or six large hemorrhoidal tumours, attended with great tenderness, not only

of the anus, but also of the external organs of generation, and spasm of the sphincter ani. To be short, I removed the tumours, and with such success, that she shortly after entered into matrimony, and did not experience any return of her disease.

Mrs. ——, from childhood had been subject to constipation of the bowels. She menstruated at fourteen, and experienced no derangement of the uterine system until between fifteen and sixteen; then, the discharge ceased for four months, during which time she lost a considerable quantity of blood from hemorrhoidal tumours. With the return of the uterine, the hemorrhoidal flux disappeared in great measure; but the tumours continued and became exquisitely painful, as well as the surrounding parts, attended with frequent painful calls to micturate. At the age of seventeen she married, but so painful was the vulva in May, 1833, four months after her marriage, that her husband had not been able to cohabit with her. I was then consulted, and on examination found that the lower extremity of the gut was filled with pretty consistent tumours, which, when prolapsed, proved to be hemorrhoidal. The examination gave rise to exquisite pain, extending to the organs of generation, and I do not recollect having seen, but in one instance, a more perfect state of spasm of the sphincter. I removed the tumours, regulated her bowels, ordered a warm hip bath daily, and supposatories of belladonna and opium every twelve or twenty-four hours. Suffice it to

say, that in three weeks she had perfectly recovered.

Mr. ——, a fine young man, consulted me last summer for neuralgia of the testicles, as he called it. He had piles, from which the pain extended to the perineum, testicles, bladder and urethra. He was emaciated and worn down by continual suffering and nervous excitement. For fourteen months, he had tried all the most powerful narcotic remedies, as well as iron, bark and arsenic, both warm and cold bathing, exercise, a sea voyage, and so on; but without advantage. When he came under my care, I first regulated his diet and bowels, and then removed the hemorrhoidal tumours, with such advantage, that in a month he had not a remnant of his very painful disease.

These tumours may be confounded with prolapsus of the mucous membrane of the rectum, and polypi of this intestine.

The form of prolapsus with which they are likely to be confounded, is that chronic affection in which a flap of the mucous membrane, on either side, is forced down and becomes thick and rugous. However, the semilunar form of these flaps, the extent of their base, our ability to glide the folded membrane between the finger and thumb, as well as their freedom from erection and hemorrhage, are characters so opposite to those which we have described as pertaining to hemorrhoidal tumours, that a very cursory examination enables us to distinguish between them.

The slow, progressive and indeterminate increase of every species of polypi; their incapability of erection or collapse; their large size; their pale red colour; their very soft spongy feel, when of the mucous species; their solidity, when they possess a fibrous structure, together with their freedom from inflammation and ulceration, unless when of a malignant character, or when under the influence of an irritating cause, enable us to avoid confounding hemorrhoidal tumours with them.

The second class of tumours are those situated on the verge of the anus, though I have seen a few cases in which they extended a short way within this orifice, being in part covered with the mucous membrane. They are more or less livid, generally elastic, have an extensive base, and are formed of extravisated blood, which is encysted by condensed cellular tissue, and covered by a few fibres of the sphincter and fine skin of the verge of the anus. I have satisfied myself of these facts, by cutting off the prominent portion of the tumour and then turning out the extravisated blood, in the living body, and by cautious dissection in the dead. (See plate iii. fig. i.) Sometimes the blood is absorbed, leaving no trace behind; occasionally, however, in consequence of the first, but more especially of repeated attacks, the superincumbent integuments and surrounding cellular tissue, become hypertrophied, and pendulous flaps or tumours, which in some instances, from the friction they are exposed to, obtain

a rough or warty aspect, and become a source of great irritation. It not unfrequently happens, that when there is but one large tumour, it suppurates and then gradually shrinks up.*

When small, these tumours are attended with itching, a sense of fullness, and pain upon pressure; but when large, the pain is constant, and is accompanied with more or less throbbing, and sometimes contraction of the sphincter. Indeed, so severe is the anguish, that the patient is feverish, and unable to walk, or take any other species of exercise, especially if suppuration be about to occur.

These tumours, when recent, are apt to be confounded with internal tumours, and partial prolapsus of the rectum. They may be distinguished from the internal tumours by being covered principally by the skin; by smoothness of surface; by our ability to glide the superincumbent parts over them; by their greater lividity; and finally, by their excessive hardness and freedom from hemorrhage. They differ from partial prolapsus of the rectum, not only by their density and lividity, but, by their great tenderness and tubercular form. However, there is occasionally but one tumour, which is very large and flat, with the mucous membrane stretched over its internal and inferior aspect, so as to simulate very much a descent

* I had an opportunity of dissecting a case of this kind, in a soldier, who died of fever, and I ascertained that the abscess was in the cellular tissue, *not in a vein.*

of a portion of the mucous membrane. The diagnosis, however, is by no means difficult; for, independent of its deeper colour, firmer consistence, partial cutaneous covering, and limited extent, if the finger be introduced, the tumour will be found to extend a considerable way within the sphincter.

When these tumours undergo the changes I have before mentioned, they are liable to be confounded with excrescences which form about the anus, and are sometimes of a venereal character. They may, however, be easily distinguished from them by the history of the case; by the absence of other venereal symptoms; by the pliability of the skin; by the healthy condition of the surrounding parts; by the absence of a purulent secretion; by their lighter colour; generally, by their greater density and roughness; and finally, by being confined to the verge of the anus.

Inflammation is produced by the difficulty which the blood experiences in circulating through the rectum. It always, in a greater or less degree, accompanies the formation of tumours, and frequently acquires great severity when there is no hemorrhage. Provided it has not proceeded too far, the hemorrhoidal flux arrests it. (See chapter vi.)

Mucous discharge. This may arise from the same cause as inflammation, and in this way supply the place of the sanguineous evacuation. Sometimes it precedes, but more commonly follows the hemorrhoidal flux. When the capillary irritation is con

siderable, it is aqueous, and so acrid, as frequently to excoriate the surrounding parts; when chronic, however, it is like the white of an unboiled egg, or frog's spawn. If moderate, it is only thrown off during defecation; but when more profuse, the exertion of coughing, sneezing or laughing, will cause its excretion.

This discharge can be distinguished from venereal blenorrhagia, by the history of the case, by the absence of venereal symptoms, and generally, by its tenaceous and transparent character.

In consequence of the affections which we have now treated of, the following consecutive accidents in addition to those we have already specified, may occur: fissure, stricture, and abscess by the side of the rectum.—See the chapters which treat of these diseases.

The causes of hemorrhoidal affections, are, the structure of the part,—age,—sex,—climate,—period of the year,—hereditary predisposition,—the suppression of other hemorrhages,—habit,—plethora,—other diseases,—passions,—constipation,—pregnancy,—the developement of tumours in the pelvis and abdomen,—disease of the liver, pancreas, spleen, lungs, heart or aorta,—obliteration of the inferior mesenteric vein,—tight lacing,—concussion of the abdomen,—the application of bandages to the inferior extremities,—pierced seats,—certain alimentary substances,—stimulating purgatives,—irritating enemata,—diarrhea,—dysentery,—prolapsus of the

rectum,—ascarides,—external irritation,—stone in the bladder,—stricture of the urethra,—disease of the prostate,—and excessive venery.

It will not be unprofitable to offer a few remarks on these causes.

Structure of the part. The absence of valves in the veins, together with the contraction of the musculur coat of the rectum, prevents the free ascent of the blood, and thus gives rise to sanguineous conjestion of this intestine.

Age. Adults are more liable to hemorrhoidal affections than youths. I have, however, observed a well marked case, attended with hemorrhage, in a boy five years old, who laboured under stone; and another in a girl, between six and seven. Such cases, however, are very rare, first, because in early life, the head and chest are more subject to vascular repletion, than the abdomen; whereas, in mature life, this region is peculiarly susceptible of sanguineous engorgement; secondly, because the venous system is more fully developed in the adult, and the circulation less rapid; and, thirdly, because the bilious temperament and depressing passions pertain, for the most part, to those who have passed the period of puberty. Besides these differences, which are applicable to both sexes, there is another peculiar to females. This is the cessation of the natural menstrual discharge, in consequence of which, especially in plethoric women, the system becomes surcharged with blood. If, under such

circumstances, the vessels of the rectum exhale the superfluous blood, we look upon the hemorrhage as a fortunate occurrence, for in this way fatal attacks of apoplexy and other diseases are warded off.

Sex. There has been great diversity of opinion as to the comparative frequency of hemorrhoidal affections in both sexes. My own experience leads me to believe that males are more subject to them than females, and this is in accordance with what, physiologically speaking, we ought to expect; for the functions of the uterus should, so long as they last, be sufficient to rid the system of superfluous blood. Indeed until the menstrual flux ceases with the turn of life, it is not common to see women suffer from more than occasional attacks of hemorrhoids, and then the uterine function is more or less deranged. In a case which came under my care, for seven successive months the hemorrhoidal and uterine flux appeared simultaneously, and also subsided together on the third day. In another case, on which I am now in attendance, the menstrual discharges ceased five months ago, since which the young lady, (twenty-three years old,) has had a daily discharge of blood from the rectum while at stool. Finally, I have seen two cases, in which the hemorrhoidal and uterine flux alternated with each other.

Climate. It is generally believed that warm climates dispose to hemorrhoidal affections. Montegre thought that they operated by inducing the

bilious constitution. However this may be, I am inclined to think that changeable weather, such as we suffer from in this region of the world, is a frequent source of these diseases. The number of persons in America thus afflicted is immense, which I am disposed to attribute to the accumulation of blood in the internal organs, when the surface of the body, which has been hot, becomes rapidly chilled down by the sudden reduction of temperature.

Period of the year. The spring is the period most favourable to the developement of hemorrhoids; firstly, because the mass of the blood is increased, in consequence of the secretions having been diminished during the winter; secondly, because the absorption of caloric expands the blood; and thirdly, because the phenomena of life are more active at this season. Some authors have asserted, that the hemorrhoidal flux is most likely to occur, when the winds are northerly, and others again say, that it is apt to take place during the solstices and equinoxes; assertions which, though I do not deny, I have been unable to verify.

Hereditary predisposition. Children of hemorrhoidal parents, possess a similar organization, and are, in consequence of it, predisposed to these affections. Many authors have related cases, with a view of illustrating this tendency. M. de Larroque mentions an entire family, amounting to eight or

nine in number, who were thus afflicted, and I have witnessed several cases myself, in which the hereditary predisposition could not be doubted. Thus, I have seen hemorrhoidal tumours in the father and son, in two brothers, and in four brothers whose father was operated on for the same disease. That persons thus predisposed are generally of a bilious constitution, with a greater developement, than usual, of the venous system, subject to depressing passions, and exalted sensibility, I am ready to admit; but this is far from being invariably the case, as I have had repeated opportunities of proving.

Sedentary habits. Those who lead sedentary lives, especially, when they eat largely, become plethoric, weak, and enervated. Thus, they are predisposed to sanguineous fluxions, so that, even without the conspiration of other causes, the redundant blood may be discharged by the hemorrhoidal vessels. The sitting position, however, as well as constipation, are generally connected with this method of life, and favour the accumulation of the blood in the hemorrhoidal vessels. It is very common for the hemorrhoidal flux, in such persons, to be not only moderate, but regular, so as to enable them to pass through life, free from other more serious diseases.

The suppression of other hemorrhages. We mentioned before, the influence which the menstrual and hemorrhoidal flux exercise on each other.

Now it only remains to state, that those persons who are predisposed to fluxionary movements, and who have laboured under epistaxis, hemoptysis, hematemesis, &c., have them occasionally arrested by the appearance of the hemorrhoidal flux, a translation of disease, to them, of great importance. Several cases of this kind have come under my observation, and as the subject is highly interesting, I shall give a brief outline of two of them.

A gentleman, now upwards of fifty, left Ireland several years ago, in consequence of a dangerous spitting of blood, and settled in the south, where he transacted a large commercial business. The expectoration of blood soon subsided; but he was attacked with hemorrhoids, and though the discharge of blood was considerable, he continued to enjoy excellent health. Having made his fortune, and being excessively annoyed with the constant protrusion of the tubercles, when he attempted to walk, he went to Paris, and had them removed by the late M. Dupuytren. He soon recovered from the operation, and returned to the United States, labouring under a determination of blood to the head, for which he consulted me. I recommended low living, leeching the anus, and pills consisting of the extract of aloes and blue mass. Under this treatment, he experienced great relief; but though a period of three years has since elapsed, he has been compelled repeatedly to have recourse to the same means.

A gentleman, between forty and fifty years of age, from boyhood had been subject to epistaxis, yet enjoyed perfect health. In 1832, he laboured severely for some weeks from headache, vertigo and syncope, in consequence of the suppression of the nasal hemorrhage. He consulted me, and I recommended leeches to the schneiderian membrane, and a cathartic, from which he derived no advantage, for the symptoms above mentioned continued, and he became chilly, suffered from abdominal pain, and a sense of weight in the rectum. I now ordered a stimulating pediluvium, and a brisk purgative. He soon felt a desire to defecate, and while on the chair, evacuated quite a pint of blood. Immediate relief followed this discharge, and in the course of the night he lost about as much more blood, during the operation of his medicine. When I visited him on the following morning, he felt perfectly restored, and wished to go to his counting house, a request which I, of course, did not comply with. He was rapidly restored to his wonted condition, in which he still continues, through the medium of a regular hemorrhoidal flux, which seems to have supplied the place of the epistaxis.

Habit. When the hemorrhoidal flux has once taken place, it is reproduced with great readiness, even though the causes do not act energetically.

Plethora. Those whose systems are surcharged with blood, either from the suppression of artificial or natural discharges, or from too abundant ali-

mentation, are more liable than they otherwise would be, from the co-operation of other causes, to be affected with hemorrhoids.

Other diseases. The hemorrhoidal flux not unfrequently serves as the crisis of other diseases, as inflammation of the different organs contained in the head, chest and abdomen, and some nervous diseases, as melancholia, hypocondriasis, and so on.

Passions. Rage, fear, sorrow, ennui, restlessness, &c., produce a strong impression on the cœliac plexus, as manifested by a sense of pain, weight, and sometimes constriction of the epigastrium. The consequence of this impression, is a repulsion of the blood from the surface, and an accumulation of it in the internal organs, especially in the abdomen, which may be followed by indigestion, vomiting, diarrhœa, jaundice, or the hemorrhoidal flux.

Constipation. Indurated and impacted feces produce hemorrhoidal affections; firstly, by irritating the mucous membrane of the rectum, and thus causing an afflux of blood towards it; secondly, by compressing the hemorrhoidal veins, and thus impeding more or less, the ascent of the blood; and thirdly, by the engorgement which the hemorrhoidal vessels suffer during violent efforts at expulsion.

Pregnancy. This state of the system tends to the production of these affections; firstly, by the state of plethora which it creates; and secondly, by the pressure which the enlarged womb exercises on the mesenteric veins.

The developement of tumours, as well as *the induration* and *other diseases of the organs* specified above, together with *tight lacing*, cause hemorrhoids by the impediment they create to the ascent of the blood.

Concussion of the abdomen determines an increased quantity of blood towards it; *the application of bandages to the inferior extremities* obstructs the circulation, and consequently causes a fluxionary movement in the direction of the inferior portion of the body; and, *pierced seats* leave the anus unsupported, so that not only is the blood allowed to gravitate without resistance, but, in consequence of the pressure on the surrounding parts, the circulation is obstructed, hence they are occasional causes of hemorrhoidal attacks.

Certain alimentary substances. Onions, shallots, radishes, spices, salt, and aromatics, as well as claret, cider, beer, honey, &c., in certain people, also very warm or cold drinks, by creating abdominal plethora, and exalting the sympathy between the stomach and the rectum, favour hemorrhoidal diseases,

Stimulating purgatives, as aloes, rhubarb, sulphate of soda, &c., *stimulating enmata, diarrhœa, dysentery, prolapsus of the rectum, and ascarides*, all act, by directly irritating the mucous membrane, and thus creating an increased flow of blood to the rectum.

External irritation. Riding on rough horses,

blows, inflammation, the application of heat or cold, leeches to the anus or lower extremities, and stimulating pediluvia, operate on the vessels of the rectum, by attracting the blood downwards.

Stone in the bladder, stricture of the urethra, disease of the prostate, and excessive venery, create engorgement not only of the genito-urinary organs, but also of the rectum, in consequence of its situation, structure, and office.*

From the causes now mentioned, it is evident that hemorrhoidal affections are either constitutional or accidental, and as this distinction is important, we shall point out in a general way how it may be made

When they are constitutional, there is an hereditary predisposition, they are generally of long standing, and the attacks, which are frequently periodical, occur independently of local and accidental causes. The relief resulting from the attack, the quantity of blood effused, the existence of tumours, the intensity and duration of the pain, the age, season, climate and habits, should be taken into account, when determining the nature of the affection.

In the accidental affections, the hereditary predisposition does not exist, and neither age, season, climate, nor habit are concerned in their production. The paroxysms are not periodical, and they afford but little relief, unless the evacuation has

* Montégre has, in his excellent treatise, accumulated nearly all the facts relating to the production of these affections. (Op. cit. from p. 72 to 111.)

been preceded by violent congestion of the vessels of the rectum. A local cause easily determined, produces and prolongs the attack; but the best proof of the accidental nature of the disease, is the absence of the symptoms denoting a fluxionary movement, and finally, the presence of but a few local symptoms.

I shall follow the same order in describing the treatment of these affections, which I adopted, after Montègre, in investigating their pathology.

Congestion. When symptoms denoting repletion of the vessels of the rectum exist, we ought to direct the bowels to be evacuated with castor oil, or some other mild cathartic, then, a dozen of leeches to be applied to the anus, and after they have been removed, a warm hip bath. In some individuals, particularly in those who have heretofore suffered from the hemorrhoidal flux, this plan of treatment will reproduce it, and thus free the patient from his uncomfortable condition. In others, it will afford relief without the appearance of this flux; though in such cases it will generally be necessary to repeat some or all of the remedies mentioned, once or oftener.

Hemorrhage. As long as the hemorrhoidal discharge is moderate, we ought not to interfere with it, but when a considerable portion of blood drains off daily, so as to render the patient rather weak and nervous, we ought to order a drachm of the *confectio piperis nigri*, to be taken three times a day, and should

the bowels be torpid, a portion of the lenitive or sulphur electuary at bedtime. Many patients cannot take the confection of black pepper. In such cases, four ounces of lime water ought to be injected into the rectum every morning and evening, and retained as long as possible. When the patient leads a sedentary life, he should take exercise, by which the secretions will be increased, and the circulation equalized. I know a studious gentlemen, who suffers much from the hemorrhoidal flux in the winter, but in the summer, when he travels, the bleeding ceases. The diet ought to be plain and moderate. The stimulating nature of the food used by the better description of people, together with their sedentary habits, renders them more subject to hemorrhage from the rectum than the more humble classes.

Should the hemorrhage become suddenly so profuse as to exhaust the patient, it becomes our duty to use active measures to check it. He should be placed in the horizontal position, and the following means employed, according to the urgency of the case: ice to the perineum and sacral region; sinapisms and ligatures to the upper extremities; cupping glasses, with or without scarifications, over the scapulæ; dilated sulphuric acid, or acetate of lead with opium internally; and, injections of ice water,—spirits of wine,—port wine,—a solution of alum, of sulphate of iron or copper in a decoction of oak

bark,—tincture of the muriate of iron and water,—or, the decoction of bistort, tormentil, pomegranate, nut galls, &c.

Some authors have recommended bleeding in the arm; but I cannot add my assent to this practice, for though I am ready to admit that it diminishes the nervous agitations, renders the disposition to metastasis less easy by emptying the vessels, and tends to draw the blood to the superior part of the body, I am disposed to think that a patient reduced by the hemorrhoidal flux, has got no blood to spare. In the early stages of the flux, when the vital forces are exalted, this objection will not hold good, but at such time phlebotomy would be a highly improper remedy, for, as I have said before, it is only when the hemorrhage is profuse that we are justified in meddling with it.

When the hemorrhage has continued so as to exhaust the patient by slow degrees, and has assumed more or less of a passive character, we ought to administer the sulphate of quinine and sulphuric acid, or some chalybeate preparation, with great caution; but most advantage will be derived from sea bathing. I have seen a few cases, in which much improvement took place during a course of ferruginous waters.

If the bleeding proceeds from tumours, they ought to be removed.

Tumours. When the tumours are exceedingly

painful, they should to be anointed with the following salve, three or four times a day.

℞ Extracti opii grana duodecim,
Unguenti Cetacei unciam,
M—

Sometimes the patient derives great relief from the application of cold water in a continued stream. Thus, in England, many of those afflicted with hemorrhoids are in the habit of allowing the stream which issues from the water closet, to strike against the parts prolapsed, while defecating. When the sphincter is affected spasmodically, I have found the following ointment very useful.

℞ Extracti Belladonnæ drachmam
Unguenti Cetacei unciam,
M—

Should the tumours be inflamed, leeches ought to be applied to the surrounding parts, and followed by tepid cataplasms. Some authors have recommended scarifications, but, I cannot approve of this practice; firstly, because I have seen much annoyance, and never any good, arise from them; and secondly, because the principle upon which they have been recommended is erroneous, viz.: that as piles are dilated veins, their puncture ought to afford much blood, and thus disgorge the vessels of the rectum. When they descend, and the surrounding parts are relaxed, we may advantageously use the ointment of galls. In consequence of pain, it may be advisable to add opium, or of spasm of

the sphincter, belladonna to this ointment; and should there be ulceration and fungous asperities on their surface, the super-acetate of lead will prove a useful addition, in the proportion of half a drachm, or even a drachm, to an ounce.

Where the spasm of the sphincter and pain did not forbid it, I have ordered half a drachm of the sulphate of zinc, in half a pint of water, to be injected every morning after defecation, and in the evening a steel bougie to be passed a few inches into the bowel, and kept so for half an hour. This plan has in some instances answered very well, and on the whole, appears to me much more useful than it was esteemed by those who first tried it.

The means now stated are sufficient, in the majority of cases, to enable the individual to pass his life comfortably; but when, in spite of their judicious employment, the tumours continue to be neuralgic, attended with spasm of the sphincter, subject to protrusion, or bleed profusely, they ought to be removed. I must here, however, caution the inexperienced against precipitate determination, and this I cannot more effectually do, than by repeating that hemorrhoidal affections are generally constitutional, and serve to ward off fatal disease of other organs; therefore, it is absolutely necessary to interrogate the patient as to his hereditary predisposition to other disease, to the present state of the organs most essential to life, to his health previous to the formation of these tumours, and the influence

they have since exerted on it. Having, after a mature consideration of his case, determined upon the propriety of removing them, the patient ought to be informed of the course of treatment, which we shall specify in another place, as necessary after the operation, and without he consents to pursue it, the surgeon ought not to proceed to operation. Indeed, when we meet with a rational patient, we ought to explain to him all the circumstances relative to his case, or, if he be not a sound thinking person, it will be prudent to confer with some of his friends; a course not only proper in this, but in all other cases, which may present themselves for operation.

The operation being determined on, the next subject is the best method of performing it. Some surgeons prefer excision, and others the ligature. Those who advocate the former, say that there is no danger of hemorrhage, that it is more readily executed, attended with less pain, and followed by a more rapid recovery, than when ligatures are applied; but above all, that it is entirely free from phlebitis, tetanus, and peritonitis.

That it is more easily and quickly executed, I am ready to admit, though it cannot be denied that the operation by ligature is simple enough, and far from being tedious. Perhaps, also, it may be somewhat less painful, but in this respect there cannot be much difference, when the ligatures are properly applied. That it is followed by a more rapid re-

covery, I deny,. As to the occurrence of phlebitis, I have never seen a case, nor am I acquainted with one on record. The dread of this consequence has arisen in the minds of some French authors, because they set out with the preconceived idea that these tumours were varices, and then, reasoning from analogy, they arrived at a conclusion which is not tenable. An author, therefore, instead of quoting cases of inflammation of the veins of the leg, from ligature of the sephena, to illustrate the consequences arising from tying hemorrhoidal tumours, ought to have read some of our English authors, who, though they agree with Briquet, Danse, and others, as to the occurrence of inflammation in some cases of ligature of the sephena, have, at the same time, demonstrated that the extremities of this vein are much less liable to become inflamed than its trunk, in consequence of external violence. Mr. Kirby has given a case in which tetanus followed the operation, and in the same manner, I could cite two fatal cases of this dreadful disease, one of which succeeded to a thorn in the heel, and the other followed a very slight abrasion of the skin. It is very much to be regretted that the opponents of the method by ligature have not, like Mr. Kirby, quoted cases, instead of making assertions: such a paucity of facts, therefore, is not likely to have much weight with an impartial surgeon. As to peritonitis, I know of no case on record *in which it was proved by dis-*

section. Indeed, the occurrence of this disease, as a consequence of the tying piles, was started by Petit, who related two cases, in which, after the operation, the patients were seized with symptoms resembling those of strangulated intestine, to wit, nausea, vomiting, hiccough and abdominal pains. One of these patients recovered, and the other died on the second day, but as no examination of the body was made after death, we are not justified in drawing any conclusion from it. That it was a case at all fitted for operation, we do not know, and, however probable, it may be questioned, whether the fatal attack, whatever it may have been, was the result of the operation.*

That excision is not likely to be attended with hemorrhage I deny, for I have performed the operation several times, and after it, have had to tie up arteries, plug the rectum, and in one instance to apply the actual cautery. Indeed, I so nearly lost two patients, that when left to my own choice, I no longer have recourse to this operation. In the cases I have operated on, the hemorrhage has never been alarming during the operation, but in one instance, and in it, I was compelled to make firm pressure with the two first fingers of my left hand, for a considerable length of time, a procedure which appeared necessary to prevent a most frightful hemorrhage. Generally, however, after these

* Traité des maladies chirurgicales, &c., ouvrage posthume de J. L. Petit, Paris, MDCCXC. tome ii. p. 123--4—5.

operations, the hemorrhage does not occur for a few hours, then, the patient who may have been perfectly comfortable, becomes anxious, restless, and is seized with rigours, spasms of the extremities, cold perspiration, sickness of the stomach, swelling and tension of the abdomen, particularly in the left iliac fossa, and colic pains. His pulse becomes small, frequent, and irregular; his respiration anxious; his countenance pale; he is vertiginous, and faints. All this time, the blood is accumulating in the colon, and he may die without discharging it; but frequently the tenesmus is so great, that he goes to stool, evacuates large clots of blood, faints, and sometimes dies. More commonly, however, the discharge, if it takes place in the recumbent position, brings relief; but, after some time, the hemorrhage returns, and in this way some patients have died.

From what I have now said, it will appear that excision of hemorrhoidal tumours, is far from being a safe operation. Indeed, we cannot free it from the danger of hemorrhage, unless we touch the cut surfaces with the actual cautery, as recommended by Dupuytren, and I have no hesitation in saying that this is a barbarous proceeding, and one that ought not to be adopted, since we possess a certain and comparatively safe remedy in the ligature. However, if the patient will not submit to this remedy from prejudices he may have formed, we ought excise the tumours in the following manner.

The bowels having been gently moved with oil

or an enema, the patient should sit over warm water, and strain until the tumours are prolapsed; then, placing himself sidewise on a couch opposite the window, with his knees drawn towards the chin, an assistant separates the buttocks, while the surgeon with a polypus forceps in the left hand, and a long curved scissors in the right, seizes and excises the tumours one by one, taking care not to include any of the surrounding mucous membrane. If the bleeding be profuse, the operator should introduce his finger, and desire the patient to contract the sphincters as closely as possible, so as to compress the bleeding vessels. In a short time, the finger may be withdrawn; but, it will be prudent to elevate the hips, and apply small bags of ice to the anus. If the hemorrhage recurs after a few hours, the anus ought to be dilated with a speculum, and if possible, the bleeding vessel or vessels secured with ligature; but, if we cannot accomplish this, the cut surfaces should be touched with the actual cautery. Some patients, however, will not hear of this means of security, and under such circumstances we are compelled to resort to compression. With a view to accomplish this in the most unexceptionable manner, I would recommend the use of the following instrument, which I had constructed for suppressing hemorrhage after lithotomy. This instrument is seven inches long, tubular, about as thick as a swan's quill, terminated

with a button at one end, to facilitate its introduction, and with a stop cock at the other. One inch from the stop cock, and half an inch from the button, there are two projecting rings, and on the proximal side of the distal ring, the tube is perforated by a number of holes. Finally, a portion of intestine is bound by means of waxed silk, on the tube, behind the rings. See plate ix. figs. xi. xii. This instrument should be introduced and then inflated. In some little time we can let off the air, and withdraw the instrument, provided the hemorrhage has ceased; but, if we find that it returns on the removal of the pressure, we must again inflate the intestine.*

* Several methods of plugging the rectum have been employed, of which the following are the most remarkable. "Je forme avec de la charpie un tampon de figure oblongue, ni trop dur ni trop mou; sur l'un des bouts de ce tampon, je passe en croix deux gros fils, je les réunis à l'autre bout; et pour les assujettir dans cette situation, je passe circulairement quelques brins de charpie fort longs, depuis un bout jusqu'à l'autre: les quatre fils réunis, forment un cordon, que doit avoir au moins huit à dix pouces de longueur. Je mouille l'intérieur de l'anus, et l'extérieur du tampon, avec du blanc d'œuf, ce qui me donne la facilité de l'introduire dans l'anus, au-dessus du sphincter, ou du moins au-delà du vaisseau ouvert. Ce tampon est assez gros pour remplir l'intestin, mais non pas assez pour arrêter l'hémorrhage; pour lui donner cette faculté, je prends un autre tampon de charpie, à travers lequel je passe le cordon du premier tampon, que je tiens ferme avec l'une de mes mains, et je le tire à moi, pendant qu'avec l'autre main je pousse le tampon extérieur, comme si je voulois le faire entrer dans le fondement: il arrive alors que le tampon extérieur se raccourcit, qu'il s'elargit par conséquent, et vient presser les parois du vaisseau ouvert. La pression est d'autant plus grande, que le tampon extérieur, poussé à contre-sens, lui résiste, et de cette maniere le vaisseau se trouve pressé par trois forces, savoir, par la dilatation du tampon intérieur, par sa détermination de haut en bas, et par la pression du tampon extérieur, de bas en haut. Il sort au-dehors un grand bout de ce cordon, que j'envelloppe dans un linge, et

After the operation, the patient ought to be confined to arrow root, barley water, and such nourishment. If he suffers pain, or is restless, it will be necessary to administer morphine, and mental excitement should, if possible, be prevented. On the third day an enema, consisting of gruel and oil, should be given, and repeated every second day until the parts heal.

The operation by ligature, is that which I prefer when the option is left with me. I have now performed it, I am sure, upwards of a hundred times, and I have never seen a bad symptom follow it. Having experienced some annoyance in performing the operation with precision, neatness, and expedition, in the ordinary manner, I invented some instruments, which, I have used with much satisfaction.

This apparatus consists of a forceps for seizing

que je replie sur la charpie, qui fait le tampon extérieur. Je le couvre de plusieurs compresses, puis d'un bandage en T. Par ce moyen, ce cordon est arrêté de maniere que les deux tampons ne pouvent s'écarter l'un de l'autre." (Traité des Maladies Chirurgicales, &c., ouvrage posthume de J. L. Petit, Paris, M,DCC,XC. tome ii. p. 128.) Dessault succeeded in a case, by the following method: " Un morceau de ligne carré, portant à ses quatre angles des rubans de fils, fut introduit dans l'anus. Ou entassa, dans la cavité qui en résulta, des boulettes de charpie saupoudrées de colophane: sur elles furent appliqués de gâteaux de charpie qu'on retint en nouant les fils. Cet appariel, laissé pendant quatre jours en place, fut ôté à cette époque, sans qu'il survînt la moindre hémorrhagie." (Œuvres Chirurgicales, tome ii. p. 417. Paris, 1830.) Finally, the late Baron Dupuytren, when recommending the cautery, says, " Un procédé moins sûr, pour arrêter l'hémorrhagie, est l'introduction dans l'anus d'une vessie de porc, que l'on bourre ensuite de charpie." This method, however, is not peculiar to Dupuytren, as it has been adopted by several other surgeons.

and bringing forward the tumours, needles of different sizes, needle carrier, and forceps for removing the needles.

The forceps is six inches in length, shaped like that used for dissection, except that its blades, which are gently curved, terminate in two prongs, one sixteenth of an inch apart, and bent inward for one quarter of an inch, so as to overlap each other. The blades are furnished with a graduated clasp, about two inches from their extremities, so that when pressed together, they remain shut, and consequently keep their hold. See plate ix. fig. i.

The needles vary in length, from half an inch, to an inch, but are of the same breadth and curve. In each the hole for receiving the ligature is about a quarter of an inch from the point, and the other extremity, for nearly the same extent, is reduced one half; so that it may fit into a socket intended for it, in the needle carrier. See plate ix. fig. iv.

The needle carrier is eight inches in length, and formed like a dissecting hook, save at its distal extremity, which is considerably thicker, less curved laterally, with a socket in its extremity for receiving the needle, and a bracket on its most convex part for supporting the ligature. Besides these differences, it is also gently bent forwards. See plate ix. fig. iii.

The forceps for withdrawing the needle is like he common dressing forceps, except that the blades

are curved, so as only to touch at their extremities, which are so scooped out as to accommodate the needle. See plate ix. fig. ii.

Having now described the instruments, we shall proceed to the manner of using them.

The patient being placed in the same position, with the tumours prolapsed, and the buttock elevated by an assistant, as in the operation for excision, the operator seizes the largest tumour with the forceps, and bears it downwards; then, with a needle, long or short, according to the size of the tumour, armed with a strong double ligature of three twist silk, and secured in the needle carrier, he transfixes the centre of the tumour. All this can be expeditiously accomplished, without entangling the needle in the surrounding parts; because, the convex portion of the needle carrier, being alone opposed to the prolapsed parts, it pushes them out of the way without injury, and thus makes room for the ascent of the needle, so that we can see precisely where to enter its point. The needle should now be seized with the second forceps, withdrawn, and cut off. Each half of the tumour being tied as firmly as possible, all of it, save a small portion in front of the ligatures, ought to be cut off with a curved scissors. The other tumours should be treated the same way in succession, and finally, the ligatures being cut off, half an inch from the knots, they ought to be returned, together with the

protruded membrane, and remnants of the tumours, within the sphincter.

Some surgeons do not tie the ligatures tight, as they conceive that it is unnecessary to do more than interrupt the circulation; and moreover, they assert, that binding the tumours firmly, gives rise to great pain.

In reply to these assertions, coming from great authority too, I would beg to observe, that ligatures require to be tied pretty tight, to interrupt the circulation in these very vascular tumours; moreover, that there is not much pain in tying *internal* piles. In fact, in the many operations of this kind which I have performed, I have always tied the ligatures as tight as possible, without causing much pain, or any bad consequences. Some surgeons again, are in the habit of removing but one or two tumours, fearing, that a bad result would arise from tying many at the same time. Of this, I have no dread, because my experience teaches me, that such fear is puerile. However, when I wish to moderate, *not to check*, the hemorrhage, I only remove one or two tumours.

After the operation, the patient should be put to bed, a large dose of morphine exhibited, and nothing but light fluid nourishment allowed. If the pain does not subside, a warm bath will sooth the irritation of the rectum, and also, of the urinary organs. By this course, the pain generally abates

in a few hours, and it will scarcely ever be found necessary to repeat the remedies now mentioned. On the third day an emollient lavement ought to be administered, and after its operation, a small opiate enema. The patient may now be permitted to lie on a couch, to take rather more substantial nourishment, and to walk about his chamber. On the fifth day the enemata should be repeated, and if the weather be fine, he may be permitted to walk out. Provided the ligatures do not come away in a week, they should be pulled gently daily, until they separate; but on no account, ought they to be pulled off, a practice which, I regret to say, I have seen more than once followed; not only by those who had fairly obtained a good surgical reputation, but also, a character for humanity. After their removal, the anus may be besmeared with diluted acetate of lead ointment, or four ounces of a weak solution of the sulphate of zinc may be injected three times a day, and retained as long as possible.

When the patient has regained his usual health and strength, he should take a great deal of exercise, so as to throw off by perspiration and other excretions, the superabundant blood. He ought also, to live very sparingly, and be careful to keep his bowels easy with oil, lenative, electuary, or enemata. If in spite of these means, he be threatened with congestion of any other organ, he ought to immerse his feet in warm mustard water every night,

or else, sit in a hip bath, as hot as he can bear it,—to have six leeches applied to the anus every second day,—and, to take a pill consisting of one grain of calomel, half a grain of ipecacuanha, and three grains of the extract of aloes, every eight hours, until his symptoms are moderated. In this way, great danger may frequently be averted, as I have had much proof; but, to illustrate the point better, I shall give the outline of three cases.

Mr. S., on whom I operated for bleeding hemorrhoidal tumours, lived sparingly, and took exercise for some months, by which he was restored to excellent health. He then gave up his exercise, and lived well, taking a moderate quantity of wine daily. In nine months after the operation, and two after his change of regimen, he had an apoplectic seizure, from which he recovered under antiplogistic treatment. He then enjoyed good health, by taking five grains of the extract of aloes, two of blue mass, one of ipecacuanha, and two of ginger, in two pills every night, and applying four leeches to the anus every morning, at the same time exercising much, and living very sparingly. After a few months, he gradually sunk into his usual way of life, and had another slight apoplectic attack, which, however, soon subsided, under bleeding, purging, and revulsion on his extremities. Since his recovery, which is now more than eighteen months, he has lived altogether on vegetable food, has drunk nothing but

water, and has ridden on horseback from ten to twenty miles a day, when the weather permitted. His healthhas been good; but, occasionally he has suffered from vertigo, which has yielded to stimulating pediluvia, and the pills above mentioned.

I removed five large hemorrhoidal tumours from Mr. L., and gave him directions, as to the course of life he ought to pursue. He did not attend to these, and consequently was attacked with spitting of blood, for which I was consulted, and recommended leeching the anus twice a week; two pills containing five grains of the extract of aloes, and five of blue mass, at bed time; a solution of the sulphate of soda, in the morning; low diet; and, after the spitting of blood ceased, regular exercise. He took altogether, twenty-four pills, three ounces of the neutral salt, and applied two dozen and a half of leeches, when he felt himself perfectly recovered, but weak. It is now fourteen months since the spitting of blood ceased, and by exercise and low living, he enjoys uninterrupted good health.

Mr. E., from whom I removed four bleeding hemorrhoidal tumours, was attacked, two months after the operation, with spasmodic cough, and irritation of the membrane of the larynx, in consequence of which, he expectorated an immense quantity of a frothy tenaceous matter. He was an immense eater, and a man of sedentary habits. I had great difficulty in conquering these failings, but, when I did so effectually, with the aid of warm

hip bathing, leeches to the anus, and pills, consisting of the extract of aloes, calomel, ipecacuanha, and extract of belladona, he gradually recovered.

See also, the case, p. 171.*

The treatment of external tumours is very simple. When they are not attended with much pain, the horizontal position, low living, gentle cathartics, emollient fomentations and poultices, will be sufficient for their removal. If, however, the pain be considerable, in addition to the means now recommended, we ought to apply a few leeches; but, should there be but one large and elastic tumour, the better practice will be to lay it freely open, and then, with the scooped extremity of a director, turn out the clotted blood. This operation never fails to give relief, and prevents the formation of matter. Some years ago, I attended a Scotch gentleman, who had just arrived from the West Indies, and had one of these tumours, as large as a hickory nut, on the verge of the anus, extending for half an inch within the sphincter. I ordered him castor oil, forbid all nourishment except gruel, and enjoined the horizontal position. In the evening, he had not improved, and therefore, I recom-

* Since the text was written, I operated on Major S., a delicate person, but apparently, free from organic disease. On the morning after the operation, he was seized with a little cough, and expectorated an ounce of blood. On inquiry, I found that he had, during the night, slight symptoms of a fluxionary movement, with pectoral oppression. I ordered him a stimulating pediluvium, and a diaphoretic draught, which had the effect of rendering him very comfortable. He soon recovered without a bad symptom.

mended leeches, fomentations and poultices. On the next day the leeches were repeated, but, notwithstanding, the tumour suppurated. About three months since, a full habited merchant, just arrived from Rio, went to shoot on Long Island; but was compelled to return to town, in consequence of considerable swelling of the side of the anus. He sent for me, and on examination, I discovered just such a tumour, as that under which the Glasgow gentleman laboured, save that it was rather larger. I immediately laid it open, and turned out the coagulated blood. So sudden and perfect was his relief, that on the same day, without my knowledge, he dined out, and took his wine as usual. The relation of these two cases, will show I hope in a pretty clear light, the advantage of incision, when these tumours are large, tense, and painful.

When pendulous flaps of integument remain after the absorption of the blood, they ought to be seized with a polypus forceps, and removed with a curved scissors; otherwise, they will entangle the secretions, and in this way give rise to irritation, and finally degenerate, as I have mentioned at pages 163—4.

Inflammation. See chapter vi.

Mucous discharge. If this discharge be the result of acute capillary irritation, we ought to treat it as mentioned in the chapter on inflammation. When it assumes a chronic character, and is coupled with tumours, they should be removed. As the con-

stitution is generally weak and nervous, we ought to regulate the bowels with calcined magnesia, and then exhibit quinine or ferruginous medicines, at the same time that we recommend exercise, and a residence in a dry pure atmosphere. Cold bathing, as well as ferruginous or sulphureous waters, are also very desirable adjuvants, when accessible. Authors have recommended balsam of copiavi, oil of cajeput, and turpentine, in combination with aromatics, such as canella and mace, or with astringents, as alum, blood dragon, the bark of the pomegranate, &c., all of which, I have never tried. The local application of astringents is however sometimes attended with good effects. I have used solutions of alum, sulphate of zinc, sulphate of copper, acetate of lead, and nitrate of silver, with advantage.

The insertion of issues in the thighs, as recommended by some French authors, is a useless and wanton practice.

When the discharge has been profuse, and has continued for a long time, we ought to guard against disease in other organs, by such remedies as we have specified, when treating of the consequences which may follow the removal of hemorrhoidal tumours.

CHAPTER XV.

ENLARGEMENT OF THE HEMORRHOIDAL VEINS.

In the chapter on hemorrhoidal affections, I gave such a description of the tumours which result from a determination of blood to the rectum, as I was warranted, from the examinations I had made of them. Whether they had their origin in diseased veins, I did not, nor do I now, pretend to determine. Some one possessing more leisure than falls to my lot, would do well to renew the investigation, freeing his mind, in the first instance, from the plausible theory of their venous origin, and recollecting also, that a morbid structure may not have the same identical arrangement, from the commencement.

Slight dilitation of the hemorrhoidal veins is very common, especially, in persons subject to enlargement of the veins of the inferior extremities, and in such persons, the portal veins are generally more ample, and have thinner tunics, than in those who are free of this infirmity. These facts I long ago satis-

fied myself of.* I must say, however, that the dilutation of the hemorrhoidal veins, which I have seen, bore no resemblance, whatever, to the hemorrhoidal tumours; nor did it appear to me, that the dilated veins were undergoing any structural alteration, which would lead to the supposition that they were about to be converted into hemorrhoidal tumours. In plate iii. fig. ii, is represented the anus of a gentleman, who laboured under excessive dilitation of those veins. The appearance of the disease is certainly very different from that delineated in plate iii. fig. i. and in plate ii. fig. i; the first representing a case of internal, and the second, a case of external hemorrhoidal tumours. The gentleman from whom the drawing alluded to was taken, never lost any blood from the anus, and only experienced inconvenience from the impediment created by the venous mass, to the evacuation of the feces. The dilated veins could be easily felt, not only through the skin, but also through the mucous membrane, even above the edge of the internal sphincter.†

* See an Essay on Phlebectosis, by George Bushe, M. D., Medico Chirurgical Bulletin, vol. i. p. 230. New-York, 1831.

† M. Petit relates a case, in which the patient sunk under hemorrhage from the rectum. On dissection, he says, "je trouvai le foie peu gouflé, mais dur; les veines mésentérique, spléniques et autres, qui forment la veine—porte, étioent considérablement dilatées, parce que le troue étoit comprimé, non par le volume, mais par la dureté du foie; les veines hémorrhoïdales, depuis l' S du colon jusqu' au sphincter de l'anus, étoient variqueuses, crevées et ulcérées dans l'intericur du boyau; les bords de plus d'une trentaine de ces ulceres, le

boyau même, dans presque toute son étendue, étoiént durs et calleux." (Traité des Maladies Chirurgicales, tome ii. p. 74—5—6. Paris, M.DCC.XC.) Petit, who considered hemorrhoidal tumours as varices, employed this remarkable case in illustration of his views, and none of his followers have failed to bring it into their service; but with what justice, I leave the reader to decide.

CHAPTER XVI.

PROLAPSUS OF THE RECTUM.

THERE are two forms of this disease. In one the mucous membrane is alone prolapsed; whereas, in the other, all the coats of the rectum come down. The first is by far the most common, in consequence of the great extent and loose connection of the mucous tunic, while, the firm union of the intestine itself, with the surrounding parts, the longitudinal direction of its strongest and most numerous fibres, together with the action of the levatores ani muscles, offer much resistance to the descent of the entire gut.

Childhood, constitutional relaxation, want of tone in the muscular apparatus of the anus, and debility of the intestine itself, predispose to prolapsus of the rectum.—*Childhood.* Children are more subject to this disease than adults, because the intestine is less curved; the sacrum is more pendicular; the coccyx is not yet ossified, and is moveable on the sacrum; the connections of the rectum are less extensive, in consequence of the imperfect develop-

ment of the prostate, urethra, and vesiculæ seminales; the abdominal viscera are more voluminous; and finally, the mobility of the intestines is greater. —*Constitutional relaxation* occurs most commonly in scrofulous children, especially females, who grow up rapidly,—in infants poorly nourished, particularly in those who have been nursed too long,—in persons who have suffered from protracted disease, or from a residence in hot climates,—and, in aged persons.—*Want of tone in the muscular apparatus of the anus*, exists in those who labour under compression or disorganization of the spinal chord,—who have undergone operations for fistula or fissure,—who have had large foreign bodies extracted,—or, who have been in the habit of expelling bulky masses of indurated feces.—Finally, *debility of the intestine itself* is found in those who have constantly recourse to large enemata, or who are subject to excessive fecal accumulations.

Constipation, hemorrhoidal tumours, colitis, painter's colic, ascarides, severe cathartics, prolapsus uteri, parturition, stricture of the urethra, enlargement of the prostate gland, stone in the bladder, violent coughing, sneezing, &c., may be considered as so many occasional causes of this affection.—*Constipation.* The accumulation of feces, and the distension of the anus during their expulsion, as explained above, predispose to this disease; while the straining to force them down, together with the pressure which they exercise on the bowel

in descending, may not only protrude the mucous membrane, but the rectum itself, by elongating the cellular tissue, which connects it with the surrounding parts, and by overcoming the resistance of its longitudinal fibres.—*Hemorrhoidal tumours.* There are two species of prolapsus which depend upon these tumours. In the first, the tumours in descending drag along with them a portion of the mucous membrane, while, in the second, the protrusion results from the straining which they provoke. This has already been explained, when treating of hemorrhoidal affections. (See page 154—5.) In such cases, the displaced portion of the mucous membrane is situated within and below the piles, which maintain their usual position.—*Colitis.* The violent straining which occurs in this disease, causes more or less of the rectum to descend, while the expansion of the anus during such effort, facilitates the displacement. This is more especially the case, in the chronic form of the disease to which teething children are so subject, and in whom on dissection, the mucous membrane is found studded with numerous small ulcers. The other causes, with the exception of coughing and sneezing, operate in the same manner. These two can only effect those who are much predisposed to the disease, as during such efforts the glottis is not closed, and the sphincters are not relaxed.

The amount of intestine displaced, varies from a fold of the mucous membrane, to several inches of

the bowel itself. (See plate iv. fig. i.) In a boy with stone lately under my care, at least six inches of the intestine was prolapsed. In some instances, the protrusion forms very rapidly, as in weakly children, in consequence of the great mobility of their intestines, and the severity of the nisus which determines it. In other cases again, it takes place very slowly, especially in adults who are not advanced in life, and who do not labour under constitutional debility, or atony of the muscular apparatus of the anus.

When the mucous membrane is alone prolapsed in the child, it assumes the appearance of a small pyramidal, red, and coiled tumour; while in the adult it is less red, and generally takes the form, either of two lateral flaps, (see plate iv. fig. ii.) or of a circular fold. In some of these cases, the portion of membrane thus protruded comes from the pouch of the rectum, while that within the sphincters remains *in situ*. When this is the case, we can pass the extremity of the little finger between that portion of the membrane which adheres to the internal sphincter, and that which is protruded. This form of disease may be accounted for, by the comparatively greater extent of the mucous membrane of the pouch, and its looser adhesion to the muscular coat, than that which lies within the internal sphincter.

When the protrusion is allowed to remain down, it becomes engorged with blood from the pressure which the sphincter exercises on the veins, as mani-

fested by its increase in size and livid colour. If it be not soon reduced, inflammation sets in, and is attended not only with great local pain, but fever, and in some rare instances, death ensues, in consequence of extensive peritoneal inflammation. In some other, and yet more rare cases, the protruding portion sloughs off, and a cure follows.

When the descent of the bowel is often repeated, the mucous membrane becomes indurated, looses its villous surface, and in some instances even ulcerates. This is more likely to be the case, when the sphincter has become relaxed from the repeated dilitation it has suffered, and there is a constant nisus causing the bowel to contract, and force out the mucous membrane. Such cases are generally hemorrhoidal, and the persons so afflicted are miserable, as by no artificial means are they able to keep the membrane reduced for any length of time. Indeed, they can scarcely assume the erect position, cough, sneeze, or laugh, without suffering from its descent.

The only diseases with which prolapsus of the rectum can be confounded, are hemorrhoidal tumours, and intussusception. At page 162, we have shown how it may be distinguished from the former; therefore, it now only remains to explain how it differs from the latter, and this, though very important, is easily done. In protrusion of the rectum, we are not able to insert a probe or finger higher than the border of the internal sphincter, in

consequence of the doubling down of the mucous membrane, while in intussusception no resistance is offered to the ascent of either one or the other.

In the treatment of prolapsus of the rectum, our first great object is to replace the protruded portion of the bowel. If recent, we may proceed to its reduction at once; but if it be engorged with blood or inflamed, leeches should first be applied to the surrounding parts, and the tumour itself fomented with a warm decoction of poppy heads. The patient being placed on his side in a recumbent position, and the buttocks separated by an assistant, the surgeon having oiled his fingers, endeavours by a slow and steady compression, to diminish the size of the tumour, and then to push it within the internal sphincter. He should be careful not to introduce his finger within the anus, unless it be absolutely necessary; else in withdrawing it, especially in children, a portion of the bowel will be again prolapsed. Some authors, fearing this difficulty, have with more ingenuity than practical skill, recommended the reduction to be accomplished with a distended gut, from which the air should be let out when the protrusion is replaced, and then withdrawn. Sir C. Bell recommends the point of the finger to be armed with a cone of paper, wetted at the point, and oiled on the outside; this, he says, will easily slip out, without bringing down the bowel. I can scarcely think that this will ever be necessary; but at all events, it is a very superior

expedient to the distended gut.* Should the sphincter be so contracted, as to prevent the return of the prolapsed portion of the intestine, the fissure knife ought to be cautiously introduced, and this muscle completely divided.

If it occurs in infants who have been too long nursed, they must be weaned,—if in children badly nourished, they ought to be well fed,—if in delicate and relaxed persons, bark, iron, cold bathing, a substantial diet, a bracing atmosphere, and regular exercise will be necessary,—if from injury or disease of the spinal marrow, this organ should be treated according to the character of the affection,—if from division of the sphincter, the introduction or extraction of foreign bodies, the repeated expulsion of indurated feces, or the distention of the bowel, advantage may be derived from the injection of the infusion of galls or catechu, of a solution of alum or acetate of zinc, &c. Costiveness should be prevented, but every thing like brisk purging ought to be avoided; therefore, emollient enemata, and mild cathartics, such as castor oil, calcined magnesia, an infusion of senna, manna and tamarinds, cream of tarter, lenitive electuary &c., are desirable remedies.

Should there be irritation of the colon, giving rise to frequent discharges of an unhealthy character, and attended with tenesmes, castor oil, chalk, julap, ipecacuanha, rhubarb, calomel, and opium, combi-

* A treatise on the diseases of the Urethra, Vesica Urinaria, Prostate, and Rectum. London, 1822. p. 345—6.

ned according to circumstances, together with enemata of starch and opium, will be necessary.

If ascarides nestle in the rectum, and by the irritation they create, give rise to prolapsus of the mucous membrane, or a portion of the intestine itself, we ought to inject some of the following preparations, viz: a decoction of worm wood and rue,—a decoction of chamomile flowers with castor oil and salt,—aloes suspended in milk, or rubbed up with oil,—lime water and oil,—camphor, turpentine, or the essential oils, suspended in water with the white of egg,—sulphuret of potass in water,—tincture of the muriate of iron in water,—or, tobacco smoke. Calomel and jalap, or aloetic purges, should be administered at the same time.* In some few cases, they may be so numerous as to require extraction. (See chapter iv.)

Finally, the removal of the other causes, above specified, will be necessary for the cure of the prolapsus.

* Bresmer's electuary has been much praised as a remedy for ascarides; but I am unable to offer any opinion on it, as I have never seen it administered. As its composition is not very generally known, I shall copy it here, ℞ Semen. Santonici et s. tanaceti rude coutus, a. semunciuam; pulv. valerian. s. drachmas duas; jalapae, drachmas duas; sulphat. potassae, dracmas duas; oxymel. scillitici, q. s. ut fiat electuarium. A teaspoon full to be taken in the morning and evening. Besides the use of this electuary, Bresmer advises an enema, consisting of an infusion of worm-wood, tansy, orange peel, and valerian, with a spoonfull of the empyreumatic oil of hartshorn, twice a day. He recommends these injections immediately after defecation, as then the worms are not protected by fecal matter. When the patient is not of an irritable habit, he orders a spoonfull of fresh ox-gall to be added to each lavement. This plan of treatment, he says, must be continued for many weeks.

Should the means recommended, fail, we must proceed to a surgical operation, the nature of which will depend upon the character of the disease. Thus, when there is a considerable prolapsus, and the sphincter does not appear much relaxed, one, two, three, or four portions of the mucous membrane, according to the extent of the disease, each about the size of a shilling, ought to be pinched up with a forceps, on opposite sides of the bowel, at different altitudes from the sphincter, then tied after the manner of hemorrhoidal tumours, and finally snipped off outside the ligatures, with a curved scissors. The prolapsus should then be reduced, the patient put to bed, and a dose of morphine exhibited. On the second day, the bowels must be opened with an enema consisting of oil and gruel, and this should be afterwards repeated, as often as may be necessary. The ligatures are generally cast off within ten days, after which, the healing process goes on rapidly, and so firm does the adhesion become, that the prolapsus gradually disappears.*

If the sphincter be relaxed, and the folds of fine skin at the anus elongated, an operation nearly similar to that first performed by the late Mr. Hey,

* This operation has been recommended by many surgeons, among whom we may mention: Copeland, (Observations on the principal diseases of the Rectum and Anus. London, 1824. p. 81.) Howship, (Practical Observations on the diseases of the Lower Intestines and Anus, p. 140.) Calvert, (A Practical Treatise on diseases of the Rectum and Anus, London, 1824. p. 262.) Mayo, (Observations on injuries and diseases of the Rectum. London, 1833. p. 40.) &c.

of Leeds in England, ought to be preferred.* It consists in excising some of the mucous membrane and fine skin of the verge of the anus, so as to give rise to more firm adhesion of the remaining mucous membrane and skin, to the subjacent parts. To perform this operation, the patient should lean over the back of a chair, or else be placed in the same position as for lithotomy; then, the operator removes as many folds of the fine skin and mucous membrane, as he may think necessary, by means of a slender dressing forceps, and curved scissors. The subsequent treatment, should be similar to that recommended after the operation by ligature. In a fortnight or three weeks, the wounds will have healed, and the adhesion become so firm, as to enable the anus to support the bowel.†

* Practical Observations in Surgery, London, 1814. chap. xiii. p. 438. At page 443, when relating his first case, that of Mr. W., he says, "The relaxed state of the parts which come down at every evacuation, and the want of sufficient stricture in the sphincter ani, satisfied me, that it was impossible to afford any effectual relief to my patient, unless I could bring about a more firm adhesion to the surrounding cellular membrane, and increase the proper action of the sphincter. Nothing seemed to me so likely to effect these purposes, as the removal of the pendulous flap, and the other protuberances which surrounded the anus. I hoped that the inflammation caused by this operation, would produce a more firm adhesion of the rectum to the surrounding cellular substance; and I could not doubt that the circular wound would bring on a greater stricture in the sphincter ani."

† Dupuytren is entitled to the merit of having projected, and performed the operation, we have described; but the sagacious Hey established the principle. "L'operateur, la main gauche armée d'une pince à dissection, à mors larges, afin de causer moins de douleur saisit successivement, à droite et à gauche, et même en avant et en arrière, deux, trois, quatre, cinq ou sex de ces plis rayonnans, quelquefois effacés ou plus ou moins saillans; de la main droite, et avec des ciseaux courbes sur la plat, il enlève chaque pli à mesure qu'il est soulevé;

I have repeatedly performed both of these operations; but the latter, with the most success.

Should lateral flaps of the mucous membrane hang down, in the adult, as described at page 204, they ought to be seized with a forceps, and cut off with a knife or curved scissors; or, they may be removed with ligatures, after the manner of hemorrhoidal tumours. These cases are exceedingly common, in proof of which, I have operated on four in eleven weeks.

When a portion of the mucous membrane becomes indurated, and partially ulcerated, as mentioned at page 205, it should be excised. I have seen a few such cases, the most remarkable of which, was that of Mrs. A. She had been affected with protrusion of the mucous membrane for seventeen years. When she consulted me, she was worn down by pain, purulent discharge, and confinement, for the moment she stood erect, the protrusion occurred. She had tried all possible local remedies, as leeches, fomentations, anodyne and astringent lotions and ointments, at the same time that she took internally an endless catalogue of drugs, and gave sea bathing and sulphureous waters a full trial. On examination, I found that the protruded mem-

l'excision doit être prolongée jusqu' à l'anus, et même au-dedans, pour que l'action s'étende jusqu' au delà de l'ouverture: ou pouvrait porter l'excision juqsu'à la hauteur d'un de unpouce, si le relâchement était très considérable mais il suffit ordinairement de ne le porter qu' a quelques lignes. Si le relâchement est médiocre, ou enlève un, deux ou trois plis de chaque côté; S'il est très grand, ou fait l'excision d'un plus grand nombre de plis." (Leçons orales par M. le Baron Dupuytren, Paris 1832, tome 1. p. 162.)

brane consisted of a circular fold, which was very hard, and ulcerated in many points. (See plate v. fig. i.) When reduced, it felt like a thick welt, or cartilaginous ring, and was immediately prolapsed by the erect position, coughing or sneezing. To be short, I removed the diseased membrane, and a perfect cure ensued.

When the patient will not submit to the operation suited to his case, his condition may be palliated, by wearing the truss recommended by the late Mr. Gooch.*

* The Chirurgical Works of Benjamin Gooch. London, MDCCXCII. vol. ii. p. 150.

CHAPTER XVII.

RELAXATION OF THE ANUS.

This condition of the anus depends upon a want of contraction in the sphincters, the causes of which are,—disease or injury of the brain or spinal chord, —exhaustion attending weak health, sedentary habits, protracted diseases, or old age,—excessive or repeated dilatation of the anus, produced by straining in chronic dysentery, the introduction or extraction of foreign bodies, and the growth of tumours from within the intestine,—and, finally, operations performed for fistula, fissure, &c.

The consequences of this affection, are proportionate to the want of power in the sphincters; thus, when they are completely paralyzed from disease or injury of the brain or spinal cord, the feces are discharged involuntarily; whereas, in that diminution of tonicity in their fibres, which depends upon constitutional exhaustion, the discharge of mucus, attended perhaps with slight excoriation of the

verge of the anus, is the most troublesome symptom. It not unfrequently happens that the mucous membrane is protruded; and should the dilitation be considerable and prolonged, especially in elderly persons, the surrounding skin will lose its elasticity, which it is not very apt to recover, even though the sphincters be restored to their primitive condition.

In the treatment of this disease, we must take into consideration the cause which produces it; thus, if it depends upon disease or injury of the brain or spinal chord, our remedies ought to be directed, so as to operate on these organs. When it arises from the growth of hemorrhoidal or other tumours, they must be removed, and should the general health be impaired, it ought to be improved by air, exercise, diet, and internal remedies suited to the nature of the case. The best local remedy, is the injection of half a pint of cold water, three times a day. Some authors recommend the application of stimulating vapours and compresses wet with astringent fluids, as the solution of alum, sulphate of zinc, superacetate of lead, or sulphate of copper, the decoction of the bark of the pomegranate, galls or rose petals, port wine and tannin. When the mucous membrane and skin are much relaxed, the removal of a few vertical folds will become necessary. (See chapter xvi.)

CHAPTER XVIII.

RELAXATION OF THE RECTUM, WITH INVAGINATION OF THE MUCOUS MEMBRANE.

This disease is disposed to, by repeated distension of the bowel with feces or injections. When the rectum is empty and relaxed, and the individual strains violently, to effect a motion, the mucous membrane may be forced into the inferior part of this intestine, and thus partially obstruct it, so that the fecal matter lodged above, can be but imperfectly discharged. If the finger be introduced, the nature of the case will be easily discovered. The bowels are confined; the calls to defecate are frequent, urgent, and generally ineffectual; nothing being voided, but mucus or puriform matter, often streaked with blood; finally, the pain is always considerable, but occasionally violent. A well regulated diet, gentle aperients, emollient followed by astringent injections, and the use of the inflated

gut, or bougie, will generally suffice for its removal. If, however, the nature of the case be not detected, one of two things must follow; either a complete prolapsus will ensue, or what is worse, the displaced membrane will, from irritation and inflammation, become thickened and indurated, and the opening through it contracted.*

A few months ago, I attended a lady who laboured under this disease for six weeks before I was consulted. During this time she had colic pains, vomiting, constipation, and hysterical symptoms. She had repeated calls to stool, but very seldom discharged more than a sanguineous or puriform mucus, which, however, was rather abundant. She asserted that there was something within the gut, and attributed all her suffering to it. This led me to make an examination, when I found that the lower part of the pouch of the rectum was large and empty; but by making her bear down, I perceived at once, an invagination of the mucous membrane, which was rather firmer and harder than natural, with an opening in its centre, not much exceeding an inch in diameter. I ordered her a light diet, the horizontal position, a blue pill at night, and a tea spoonful of Epsom salt on the following morning. Provided her medicine did not operate by noon, an injection consisting of gruel and oil was administered. After her bowels were evacua-

* See a paper by Mr. Earl in the Medical Gazette.

ted, I daily introduced into the rectum, a gut nine inches long, and then inflated it; this she retained for an hour, when the air being allowed to escape, it was withdrawn. Finally, alum dissolved in a decoction of galls was injected into the bowel, every afternoon, and retained as long as possible. Under this treatment, she recovered in a little more than a month.

CHAPTER XIX.

ITCHING OF THE ANUS.

This affection generally occurs in weak constitutions, in old people, and in women who have lately ceased to menstruate. Ascarides in the rectum, and old hemorrhoidal tumours, not unfrequently give rise to it. At other times, it depends upon a morbid state of the alvine secretions, which is often connected with general debility, especially in those who follow sedentary occupations. Sometimes an eruption of papulæ, or even of tubercles, form on the fine skin of the anus; the first species very often vesicate, and discharge a watery humour. Patches of a similar eruption occur on other parts of the surface at the same time. Thus, Mr. F. had a patch on his neck, and another on the side; Mr. C. one on his back, and another on the left groin; Mr. J. one on the sacral region; and finally, Mr. H. had the back of his scrotum and inside of both thighs, covered with an eruption, which was continuous with that around the anus.

The itching is often very distressing on going to bed, and not unfrequently prevents sleep for several hours. After a few months, it generally subsides, but is sure to return in consequence of irregularities in diet, fatigue, watching, or hot weather. From constant rubbing, the skin about the anus becomes thick, dense, and furrowed, even when there are no hemorrhoidal tumours. The furrows assume a radiated direction, and converge in the anus; they vary in number, from six to ten, and are from one quarter to an inch in length. Though pretty deep, they are generally free from ulceration in those who are cleanly in their persons; but when ablution is not daily resorted to, they become impacted with irritating secretions, which create inflammation, excoriation, and even ulceration of the lining integument. I have seen many cases of this affection, and from a gentleman on whom I lately attended, I had the accompanying drawing taken. (See plate v. figure ii.)

The late Dr. Lettsom thought that the pruriginous state of the anus, prevented the occurrence of more serious diseases. He formed this opinion from having seen many persons, after various long indispositions, relieved by it. A gentleman, sixty years of age, who had been subject to pectoral disease, was perfectly cured by the appearance of this pruriginous affection. A favourable termination of the same kind, occurred in a case threatening apo-

plexy. Another patient was relieved from gout, in a similar manner; he, however, imprudently endeavoured to allay the itching by the application of a strong saturnine lotion, which produced the desired effect, but after a few days he suddenly expired.

In the treatment of this obstinate and very troublesome disease, we should first endeavour to detect the cause which produces it. If it arises from ascarides, the means recommended in the sixteenth chapter, p. 208, should be employed according to circumstances. When there are old hemorrhoidal tumours, they ought to be removed. Provided the habits are sedentary, and the health delicate, exercise in the open air, alterative and chalybeate medicines, with a well regulated nutritious diet, will be necessary. Bark has been recommended by some; but I have found it less efficacious than the preparations of iron. Should the patient have been in the habit of partaking of highly seasoned food, and drinking liquors freely, he must be put upon a vegetable diet, and restricted to water. Occasional purgatives will be found useful in leucophlegmatic habits. Finally, if the skin be covered with an eruption, Plummer's pill and the compound decoction of sarsaparilla, will be indispensable. Five or ten grains of the former, and a pint of the latter, may be taken daily. The pills ought to be continued until the mouth is touched, and renewed when it gets well, provided the eruption has not disappeared. The sarsaparilla may

be advantageously taken for some weeks after this event. During the course of treatment now recommended, much comfort and advantage, will be derived from two or three warm baths each week.

The local applications, which I have found the most useful, are the yellow wash, lead water and laudanum, tobacco water, vinegar, tar, and citrine ointment. I have, however, observed far more benefit to arise from rubbing the surface lightly over with the nitrate of silver, so as to produce a slight exfoliation of the skin, and then washing the parts frequently, with water and the common turpentine soap.

CHAPTER XX.

EXCRESCENCES ABOUT THE ANUS.

These sprout out from the fine skin and mucous membrane in the neighbourhood of the anus, and assume a variety of forms, in consequence of which, the Greek, Latin and Arabic authors have designated them by the fanciful appellations of sycoma, thymion, ficus, marisca, porrus, myrmecion, condyloma, crista, verruca, &c. They are, generally, soft and fragile, though sometimes hard; very commonly fissured on the surface, but, occasionally, perfectly smooth, and usually of a dark red, though, in some instances, of a pale red colour. In general, they possess but imperfect vitality, and, consequently are endowed with but little feeling.*

* I have seen a few cases where these excrescences grew from the mucous membrane, opposite the superior part of the internal sphincter, and were soft, smooth, and elongated. At one period, I thought smoothness of surface, and softness of texture, belonged to all such excrescences, when situated within the anus; but two cases I have since seen, removed this opinion, which, however, is generally applicable. May not the elongated form of these growths, when they are attached high up, depend upon the action of the internal sphincter?

The cause of these productions is inflammation of the fine skin and mucous membrane; and this is, generally, the result of friction, compression, contusion, erosion arising from filth and acrid secretions, or the syphilitic poison.*

When at, but more particularly when within the anus, they may so close the extremity of the gut, as to interfere with the fecal evacuations. I once saw an old woman who suffered much during stool, and whose feces were small, irregular in form, and streaked with both blood and matter. On examination, I found the integuments around the anus covered with pus, and extensively excoriated, while the membrane, immediately within this orifice, was studded with warty excrescences, which very considerably diminished the outlet of the rectum.

They may be confounded with carcinomatous tubercles, polypi, and hemorrhoidal tumours. The absence of hardness and ulceration of the bed from which they spring, as well as their softness, and fragile structure, in the majority of cases, distinguish them from carcinoma; their roughness in most

* Some authors look upon these excrescenses as arising, in every instance, from the syphilitic poison. This opinion, however, is not tenable, for the fact is, that they existed, as we have undoubted testimony, when syphilis was unknown. In the authors now alluded to, we discover the same perverseness, which led them to assert that almost all diseases of the genitals, were syphilitic. I have frequently seen them in persons, who never had the syphilis, and one of these was a fine child, two years old, who was placed under my care by Dr. Fanning, of Brooklyn.

instances, vascularity, varied form, small size, frequently, great number, and constant purulent secretion from polypi; and their colour, structure, form, incapability of erection, and, in some instances, their situation from hemorrhoidal tumours.

In the greater number of cases they exist alone, though they are, sometimes, combined with hemorrhoidal tumours.

When they are situated within the anus, they ought to be excised with a curved scissors, and the cut surface then touched with lunar caustic. When they are without the anus, if the patient objects to their excision, we may destroy them with any of the following applications, viz.: lunar caustic; savin powder, either alone or mixed with burned alum or the red oxide of iron; sulphate of copper; verdigris; muriated tincture of iron; oxymuriate of antimony; red oxide of mercury; the liquid nitrate of mercury; Plenck's lotion, (yellow wash,) or, what I have found the most safe and effectual, the strong acetic acid.

Of course, when a syphilitic taint exists, antisyphilitic treatment will become necessary.

CHAPTER XXI.

POLYPI OF THE RECTUM.

Polypi occasionally form in the rectum, and are generally of the mucous, though sometimes of the sarcomatous species.* They may be multiplied or solitary. In the majority of cases, they are situated near the anus, though they are not unfrequently beyond the reach of the finger. They are generally globular, being pedunculated or sessile. Oftentimes, they seem to be made up of the reunion of many lobes.† Mucous polypi are developed very slowly, and never grow to any great size, varying from that of a pea, to that of a pullet's egg.

* Sanson says that the fibrous polypi are more commonly found in the intestines, than the mucous species. (Nouveaux Elemens de Pathologie, tome iii. p. 52. Paris, 1833.) My own observation would lead me to the belief, that the mucous were the most common. I may mention, here, that Sanson considers the fungous and fibrous, to be of the same species.

† Sir A. Cooper describes a polypus of the rectum, in form, like an earth worm, very vascular, and occurring, generally, in children. (Lectures by Tyrrell.) I am not acquainted with any other author, who has observed a similar polypous growth.

(See plate vi. fig. i.) Sarcomatous polypi, on the contrary, grow rapidly, and attain a very considerable magnitude.* (See plate vi. fig. ii.)

If we may form any opinion from the cases of polypi of the rectum that have been recorded, they appear to have generally occurred in adults, and for the most part in females. The probability is, that they arise in consequence of long continued irritation; though, we ought to admit that we are in total darkness on this subject.

Those afflicted with this malady, complain of weight and fullness in the rectum, tenesmus, and difficulty in defecation. The evacuations, when soft, are contracted, flattened, and generally besmeared with blood, mucus, or pus, so as to lead to the belief, that there is stricture of the rectum, but the touch at once determines the point. If the polypus be situated near the anus, it will descend during stool, and when large, can only be returned with difficulty. In some rare instances, the bowel contracts with so much force, as to detach the tumour. The late Mr. ——, on whom I attended in consultation with Dr. Stevenson, discharged a large mucous polypus in this way.†

Mucous polypi are not very sensible, nor are they dangerous, if within reach and attended to in

* Boyer mentions a case, in which the tumour was as large as the two fists. (Traite de Maladies Chirurgicales, tome v. p. 76. Bruxelles, 1828.) Troien relates a case, in which he unsuccessfully removed, a very large, ulcerated, and scirrhous polypus from the rectum. (Observat. Med. chirur. fasicul. p. 55.)

† Journal de Medicine, tome xv. p. 57. Contains a case of this kind.

time; but should they be neglected, they may degenerate, and prove fatal. The fungous polypi are, however, much more sensible, and as they are prone to ulceration, the result will generally be fatal, because of the almost impossibility of removing every part of them, and the certain return of the disease, if this be not effected.

When the polypi increase in size and malignancy, the patient becomes sallow, and loses his appetite; his tongue is coated, and his thirst intense. He is troubled with flatulence, and colic pains. Emaciation, œdema, and hectic fever now set in. The fecal discharges can only be effected with difficulty, and in small quantity, and even this cannot be accomplished without the aid of enemata or medicine. The tenesmus and weight in the rectum increases; there is much muco-purulent discharge, lancinating pains, and, frequently, considerable hemorrhage.

These polypi, when free from induration and ulceration, provided the surrounding parts be sound, ought, by all means, to be removed. To accomplish this operation, tepid water should be injected into the rectum, and when, by its evacuation, the tumour is prolapsed, the patient ought to lie on his side, and while an assistant separates the buttocks, the surgeon should seize the polypus with Museux's forceps, and cut it away with a curved scissors. If there be a plurality of these growths, they ought to be treated in the same manner. In some in-

stances, the polypi do not descend with the evacuation of the water, and then we will be compelled to dilate the anus with the speculum, and having carefully secured the tumour, and nothing else, in the forceps, to drag it down. I have twice performed this operation, and in neither case was there more than an ounce of blood lost. Should hemorrhage, however, occur, it may be arrested by injection of cold water, or by some of the other means before mentioned. (See page 185.) Some surgeons, through fear of hemorrhage, prefer the ligature, removing, of course, the tumour, after they have made the knots fast. That this method answers very well, I have no doubt, yet it is more tedious and painful than excision, and indeed, some surgeons have been compelled to remove the ligatures in consequence of the bad symptoms which have ensued; but such cases must be very rare.

When the polypus is very high up, it will be impossible to prolapse it. Under such circumstances, the operator may be able to conduct a probe pointed curved scissors along the finger, and cut through its peduncle, or it may be possible to tie it after the manner of a uterine polpyus, as did Desault, even though it was six inches from the anus.* I must confess, however, that at such a heighth, there is considerable danger of including other parts than the neck of the polypus.

* Journal de Chirurgie. tome iv. p. 281.

CHAPTER XXII.

ABSCESS NEAR THE RECTUM.

The cellular tissue, as is well known to pathologists, is very liable to suppuration, and this is more especially the case in those situations where it is depending, and unsupported by muscles, as under such circumstances, blood easily accumulates in the capillaries. Considering, then, the abundance of cellular tissue which invests the lower extremity of the rectum; the great number of veins which it contains; its depending situation; the accumulation of blood produced by the distension of the gut, with feces; its exposure to compression and contusion; omitting the causes hereafter to be mentioned, we ought not to be surprised at the frequency of purulent collections in this situation.

These abscesses may be independent of disease of the rectum, or they may arise from a morbid condition of this intestine.

Abscesses independent of disease of the rectum, may be divided into the idiopathic, traumatic, critical, and symptomatic.

The idiopathic abscesses are either phlegmonous or gangrenous.

The phlegmonous may be acute or subacute.

The acute are ushered in with fever, pain, throbbing, swelling, and induration of the parts in the neighbourhood of the anus, with frequent and difficult micturition. In a few days matter forms, and is discharged either into the intestine or externally, by one or more openings, after which, the pain and fever subside.

The subacute are attended with irritative fever. Generally, they are large, deep seated, and accompanied with a sense of weight, occasional throbbing, and spasm of the sphincter. The tumefaction, though not very great externally, is, however, very perceptible to the finger *in ano*. The urinary organs sympathize, but not to the same extent as in the acute form of disease just described. These abscesses are slow to burst, and if artificial means be not used, the patient will become exceedingly low, and the rectum will be stripped of its cellular tissue. Sometimes, they open into the rectum, but more commonly, the superincumbent integuments give way in one or more points, and the matter is thus discharged.

Fatigue, deterioration of health, and insufficient nourishment, dispose to this form of disease, and in

some instances, seem sufficient for its production; while contusions, sitting on wet seats, and riding on horseback, excite alike the formation both of this and the acute form of abscess.

The gangrenous, also, vary in their character, being sometimes acute, while at others, they are chronic.

The acute generally occur in bad constitutions, especially in those who have lived luxuriously, and are advanced in life. They are preceded by rigours, and attended with fever. In the commencement, the pulse are full and hard; the tongue is white and furred; the thirst urgent; the skin hot; and there is much restlessness. In a short time, however, the pulse become small, weak, and even irregular; the face flushed; the eyes suffused; the teeth and lips covered with sordes; and the tongue dry, brown, acuminated, and red along the edge. In addition to these symptoms, there is more or less stupor, extreme debility, extension of the extremities, and fetid pitchy evacuations. The patient first complains of deep seated pain by the side of the anus, where we may easily detect a hard point, which soon spreads; then, the pain assumes a burning character, there is considerable tenesmus, and the dysuria is more severe, than in any of the other forms of abscess. The swelling becomes diffused, the tension increases, though not to a very considerable extent, and the skin turns livid. If the diseased parts be laid open, the cellu-

lar tissue will be found extensively gangrenous, and infiltrated with very bad pus. Partial openings arise from the mortification of the integuments, and the pus with portions of cellular tissue are discharged, very slowly. Sometimes, however, the skin and cellular membrane are much more extensively diseased. I have seen a few cases, in which nearly all of both these tissues, on each side, between the anus and tuberosities of the ischia, were so completely destroyed, as to leave the rectum perfectly bare for a considerable extent. (See plate vi. fig. iii.)

The chronic are rare; they come on almost imperceptibly, the cellular tissue and skin are less extensively diseased, and they are not attended with much fever, or local suffering, as the following case will demonstrate. In October, 1827, Richard Jones, aged 59, of a weakly habit, began to feel some uneasiness in the anal region near the right ischium, attended with slight swelling, which increased gradually, and assumed a livid aspect. On the following July, when I first saw him, the tumefaction was moderate, and without much tension, the integuments were of a dark colour, and there existed two openings, which discharged a small quantity of ill conditioned pus. His pulse were slow and unequal, his spirits depressed, and his health very indifferent, as it has been for some years. I laid the diseased parts freely open, and found that the cellular tissue was partly condensed, partly gangrenous, and the seat of two cavities, each about the size of a

filbert, with which the openings above mentioned communicated.

The traumatic abscesses are very uncommon, and for the most part, fall to the care of the army surgeon. M. Ribes, in his inimitable essay on fistula in ano, relates the case of a lieutenant, who received a musket ball in the centre of the right buttock, which fractured the tuber ischii, and passed into the rectum, as proved by the immediate flow of blood from the anus, and the exit of the ball on 16th day, by the same outlet. The external wound suppurated freely, and in six weeks had healed; but then, the right side of the perineum inflamed, and seemed, from its bluish appearance, about to become gangrenous, so as to lead Ribes to suspect stercoraceous abscess; however, he punctured it, but could not detect any opening in the rectum, on the contrary, he found that the walls of this bowel were much thickened. In a few days, he extracted a fragment of bone, and some pieces of cloth, after which, the abscess healed, and the patient was restored to health.* I once saw a case, not unlike this, in a soldier who was wounded in India; the bone, however, was not injured, but the ball passed into the rectum, and was ejected from the anus. The wound in the intestine healed, while the cutaneous one remained fistulous, until I extracted two pieces of

* Memoires de la Societè Médicale d'Emulation, tome ix. p. 112, 113. Paris, 1826.

cloth from it, several months afterwards. Punctured wounds, may produce abscesses in this situation. I have seen but one such case, and it was in a porter, who had sustained the injury in climbing a spiked railing. In this instance, the cellular tissue of the scrotum, as well as of the lower part of the abdomen, was attacked with diffusive inflammation.

The critical abscesses occur after fevers and repelled eruptions. In those much emaciated, they resemble the subacute phlegmonoid abscess; in bad habits, the acute gangrenous abscess; while in others, as in children after eruptive diseases, they are small and healthy.

The symptomatic abscesses may be divided into two classes, viz: those which form in other organs, and extend downwards by the side of the rectum, and those which arise from sympathy with the respiratory organs. The first class, includes spinal, urinary, and uterine abscesses The purulent collections, depending upon disease of the spine, or the soft parts in its neighbourhood, are preceded by symptoms of disease of this column, or these parts; and the matter, after working its way downwards, between the folds of the mesorectum, appears at the verge of the anus, without discolouration, pain, or induration of the surrounding tissues. The urinary abscesses are either gangrenous, arising from the extravisation of urine, or phlegmonous, the urine being prevented from escaping by an organized lymphatic

barrier, and are preceded either by disease or injury of the urethra, which easily points out their true character. The abscesses, which arise from disease of the uterus, take place, most commonly, in the advanced stages of cancer of this organ, and discharge a sanious fluid, well marking the malignant character of this fatal disease. The second class occurs in those who labour under chronic laryngeal, tracheal, but more especially, pulmonary disease, and may be accounted for; firstly, by the constant impulse communicated to the anal region by coughing; secondly, by the unsupported condition of the veins in this situation, in the latter stages of consumption, in consequence of the absorption of fat; and thirdly, by the retardation of the portal circulation, which depends upon the pulmonary obstruction; for as explained in page 17, a free communication exists between the veins of the cellular tissue, without the lower extremity of the rectum, and the hemorrhoidal plexus.

Abscesses which arise from a morbid condition of this intestine, may be divided into the idiopathic, traumatic, and symptomatic.

The idiopathic abscesses may arise from three causes; firstly, the accumulaton of feces, by which the circulation is retarded, and the rectum engorged with blood; secondly, the entanglement of small particles of indurated feces in the lacunæ; and thirdly, from the slow inflammation which takes place, either in the vicinity or substance of tumified hemorrhoidal tumours. From these differ-

ent causes, ulceration ensues, fecal matter is extravisated, and an abscess is the result.

The traumatic abscesses proceed from the passage of balls, punctures, badly directed incisions in lithotomy, and foreign bodies which have been entangled by the internal sphincter.*

The symptomatic abscesses depend upon disease of the liver, spleen, heart, and lungs, and may in all probability be the result of retarded venous circu-

* I have seen but one case, in which a stercoraceous abscess resulted from the presence of a foreign body, and this was in the person of a boy, eleven years old, who swallowed, between three and four months previously, a portion of the thigh bone of a chicken, about half an inch long. He had suffered severely, for some weeks before I was called; but the nature of his complaint was not suspected. I laid the parts freely open, and extracted the bone.

There are several interesting cases of this kind on record, of which, the following are the most remarkable: Le Dran relates a case, which occurred to M. Destendau, of a man who for nine months laboured under a fistula caused by the lodgment of a piece of bone. (Observations de Chirurgie, tome second. Observation lxxxvi. p. 222. Paris, M,DCC,XXXI.) Petit mentions some cases of this kind. In one, he extracted a needle, which, for six months, had given rise to excruciating pain during defecation. In a second, he removed a small triangular bone, which for four or five months, had created great suffering. In a third, there was extensive mortification of the parts surrounding the anus, in consequence of the lodgment of a chicken bone, of ten years duration. Finally, in a fourth he opened an abscess, which contained fecal matter and shot. The disease was of ten years standing, (Traité des Maladies Chirurgicales, Ouvrage posthume de J. L. Petit, tome ii. p. 186, 199, 201, 205.) Stalpart Vander-Viel relates a case of a man, who swallowed the jaw of a fish, and, seven months afterwards, had it extracted from an abscess near the anus, (Cent. ii. Part. i. Obs. 21.) Sherman mentions a case, in which a fish bone was swallowed, and discharged twelve months afterwards, from an abscess by the side of the anus, (Philos. Trans. 1723.) Harrison describes a case of abscess, which resulted from the retention of an apple core, eight months after it was taken into the stomach. (Memoirs of the Medical Society of London, vol. v. p. 151. 1796.) M. de la Peyronie extracted a beef bone, M. Febvrier removed a pullet bone, and M. Dubois a piece of an earthen ware pot, from stercoraceous abscesses. (Mémoires de l'Académie Royale de Chirurgie, tome iii. Paris, M,DCC,LXXXI. p. 124, 126, 128, 129.)

lation. Disease of the lungs, and, especially, tubercular degeneration, is, however, that which most commonly gives rise to them; and this may be accounted for, by the tendency which exists to ulceration of the intestines, in this disease.

For the sake of arrangement, the different species of abscess which we have now described as arising from a morbid condition of the rectum, may be divided into the phlegmonous, and gangrenous. The phlegmonous are of two kinds; the most common are circumscribed, red, painful, hot, swollen, accompanied with fever, and irritation of the urinary organs. Suppuration is established, they point, and open externally; then, a probe can be easily passed through the fistulous opening into the bowel. In some rare cases, these abscesses do not follow this course, being small, indolent, and attended with but little inconvenience.* The gangrenous are generally acute, though sometimes chronic, and pursue a similar course to those already described, (See pages 233, 234.)

When an acute phlegmonous abscess is about to form near the anus, no matter whether it be independent of disease of the rectum, or arises from a morbid condition of this intestine, the patient should be kept in the horizontal position, and on

* Ribes relates a case, in which a tumour about the size of a large nut, situated near the verge of the anus, continually varied in size and density, yet never became discoloured. After many years, it discharged pus, and then collapsed. A probe passed through the external opening, entered the gut; therefore, the operation for fistula was performed. He styles it *abcès tuberculeux*, (Op. cit. p. 125, 126.)

the most meagre diet, leeches ought to be applied to the part affected, and followed by emollient fomentations and cataplasms. The bowels should be opened with some mild purgative, and if the patient be phlethoric, and feverish, it may be prudent to take blood from the arm. Diluent drinks ought to be taken freely, as they not only reduce the fever, but facilitate micturition, and with the same view, a tepid hip bath will prove very useful. The repetition of these means, must depend upon the skill of the practitioner. As soon as there is any thing like fluctuation, a bistoury should be plunged into the most prominent part of the tumour, and the matter evacuated, after which the cataplasms ought to be continued.* In milder cases

* We are neither justified, in this, nor in any other form of abscess, in searching after foramina in the walls of the intestine, and, above all, we are not warranted, either by experience, or reason, in dividing the sphincter and walls of the gut, to the bottom of the abscess, as recommended by Faget, and his numerous followers. Perhaps, a stronger proof of the impropriety of drawing general conclusions from isolated facts, cannot be brought forward, than the essay of Faget. In fact, on the 9th June, 1739, he was consulted by M. Gelé, who, on the 6th of January, preceding, was attacked, at Nantes, with pain in the fundament, which he attributed to internal piles. On the 15th of the month, a suppurating tumour occupied the right side of the buttock, extending from the coccyx to the middle of the perineum. On the 17th, a surgeon opened this tumour extensively, but left the rectum untouched. Fifteen days after, another abscess appeared, which occupied all the left side of the perineum. This abscess was laid open in the same manner as the first, when the rectum was found denuded laterally and posteriorly for two inches. Various dressings were applied, but with so litle effect, that the disease was considered incurable; and hence it was that M. G. proceeded to Paris, to obtain surgical aid. Faget, with the assistance of his brother, and M. Boudou, divided the rectum, and, to be short, the patient got well. (Mémoires de l'Académie Royale de Chirurgie, tome deuxième, Paris, M,DCC,LXXXI. p. 257.) Foubert, a much more experienced practitioner, proved what has since been verified, by the best surgeons, that, the intestine can unite with the surrounding parts, without having recourse to the procedure recommended by Faget, and which is not ne-

of this kind, nothing more will be necessary, than to open the bowels, apply emollient cataplasms, and puncture the abscess.

When the abscess is of a subacute character, rather a different course of treatment will become necessary. The diet should be nutritious, consisting of meats, poultry, beer, and wine. The bowels ought to be regularly moved, but no more, and this may be effected by the lenitive electuary, or some other mild cathartic, given at bed time. Small doses of the sulphate of quinine, with diluted sulphuric acid, gradually increased, will prove highly useful. The early evacuation of the matter is all-important, and this should not be accomplished by one free incision, as in the former case, but by two or three small ones ;* for in this way, the matter can be freely evacuated, at the same time that the danger arising from the introduction of air, and erysipelatous inflammation, is avoided, as well as, inversion of the lips of the wound, and consequent difficulty in healing it. Of course, both before and after the evacua-

cessary, either to the prevention of new abscesses or fistulæ. He says, "Le succès que j'ai obtenu en ne me conformant pas à cette maxime générale dans quelques cas particuliers, où il auroit été fort dangereux de la suivre; et l'examen des motifs sur lesquels ou a fondé ce principe, me l'ont fait abandonner; je me propose de le détruire par un nombre de faits et de raisons, qui, à ce que j'espere, ne laisseront aucun doute sur cet objet." He then goes on to relate eight cases, six of which occurred in his own practice, one in Ruffel's, and the other in Loui's, all confirming the propriety of his views. (Mémoires de l'Académie Royale de Chirurgie, tome ix. Paris, M,DCC,LXXI. p. 111.)

* Petit recommended the opening to be made through the bowel.

tion of the matter, emollient cataplasms are necessary.

In the treatment of the acute gangrenous abscess the greatest care is required. Should the practitioner be induced, by the jarring condition of the pulse, and the feverish state of the patient, to bleed, he will have to regret it. Should he, on the contrary, administer tonics, and stimulants, he will also find his practice hurtful. While the feverish state continues, the patient must be allowed nothing more than barley water, arrow root, gruel, and weak broths; the parts ought to be covered with an emollient poultice, and he should have a little jalap, crystals of tartar, and molasses, or some other mild cathartic, to keep his bowels easy. If there be delirium, a blister must be applied between his shoulders, and mustard cataplasms to the legs. I have seen, under such circumstances, a dose of opium produce the most beneficial effects. We should not wait, in this case, for the appearance of suppuration, the livid colour of the skin is a sufficient index for the performance of a free and deep incision, extending through the discoloured parts from before backwards. If this be not early practised, the deadening process will continue, until a greater loss of skin and cellular tissue is effected, than can, afterwards, be easily repaired. After this operation, a fermenting poultice should be applied, and renewed every eight hours. When the fever has subsided, we ought to increase the diet, allowing animal food, and beer or wine, at the same time

that we administer a few grains of blue pill with a similar quantity of antimonial powder, at bedtime, and a bitter infusion with some soda and a carminative tincture, in the course of the day, or, perhaps, a solution of the sulphate of quinine, with a little diluted sulphuric acid.

Should the skin and cellular tissue be destroyed, as described at page 234, the tonic course, which we have now mentioned, ought to be continued, until the health improves, when it will be necessary to perform an operation to remedy this state of disease; for the contraction of the sphincter, by separating the intestine from the walls of the pelvis, will render reparation impossible. The operation, which I have performed in these cases, consists in passing Desault's wooden gorget into the anus, and then carrying the bistoury into the chasm, I divide the sphincters on it, to the verge of the anus.*

*No matter how far the rectum may be denuded, we are not justified in extending the incision beyond the upper edge of the internal sphincter. Those who think it necessary to divide the rectum, when an abscess forms by its side, take especial care to extend the incision to the bottom of the chasm. The impropriety of touching the rectum, under such circumstances, I have before explained, in note to page 240. Therefore, it now only remains for me to show the absurdity of dividing so much of the gut. My own opinion is, that however ingenious M. Faget may have been in surgical expedients, he was not much of an anatomist, as may be deduced from his statement, that the bowel at the bottom of the abscess is surrounded by bunches of circular fibres, (Op. cit. p. 261.) Now, if this were the case, his practice would be more excusable; but, the fact is that, above the internal sphincter, the circular fibres of the rectum are neither particularly strong, nor numerous, (see page 12.) and no anatomist ever entertained the most remote idea, that the pouch of the rectum was in a state of contraction, except during defecation. Even Dr. O'Bierne, who contends so strongly for the contracted state of the rectum, admits, that the pouch does not partake of this condition.

Should both sides be similarly affected, I treat them in the same manner. I then pass a ligature through the angle of each flap, and plug the intestine with lint. Finally, I fasten the threads, by means of adhesive plaster, to the buttocks. In this way, the gut is prevented from retracting, while it is well pressed out towards the hips. In a few cases, I have omitted the ligatures, but not without having had to regret it. For some time after this operation, the patient should live upon the most meagre diet, so as to render the feces as scanty as possible, and the bowels ought to be quieted by small doses of laudanum. Every three days, however, we must remove the dressings, and wash out the rectum with an enema of gruel and oil.

In the chronic gangrenous abscess, stimulating dressings, consisting of elemi ointment and warm turpentine, or of castor oil and balsam of copaiva, will be necessary, until the sloughs are detached, after which, stimulant and astringent lotions, or ointments, ought to be employed. The medical treatment recommended in the acute form of gangrenous abscess after the subsidence of fever, will be requisite in this also.

Should any of the forms of disease, now mentioned, depend upon ulceration or laceration of the

To be short, as the object in dividing the rectum, is to prevent its contraction, and consequent separation from the walls of the pelvis, it is unnecessary to divide more than the portion, which, under ordinary circumstances, is in a state of contraction; hence, the incision ought not to extend higher than the upper edge of the internal sphincter.

bowel, giving rise to extravisation of fecal matter, the treatment of them will not differ from that which we have described, but, should it arise from the lodgment of a foreign body, it ought, of course, to be extracted; and, indeed, it will be prudent, in every case, to make a very cautious examination of the lower extremity of the rectum, with a view of ascertaining whether the cause of the abscess may not be a foreign body, which has been entangled by the internal sphincter.

It is not to be expected, that in a work of this kind, I should enter into any detail of the treatment of the abscesses, which depend upon disease of the spine and adjacent parts, of the uterus, or urinary organs; therefore, we shall pass these subjects by, with the following observations. Firstly, unless the spinal abscess be very large, it ought not to be touched, fearing inflammation of the sac, and rapid hectic, which are apt to ensue when it is punctured; but if it obstructs the rectum, a small valvular opening may be made in its most prominent part, and the matter partially evacuated; after which, the wound ought to be closed with adhesive straps, and gentle pressure made with a broad flannel roller. Secondly, when the abscess proceeds from disease of the womb, it should be punctured, poulticed until the irritation subsides, and then dressed lightly. Thirdly, if ulceration, or rupture of the urethra, gives rise to the abscess, the parts should be laid freely open, so as to

allow the urine to drain off. The principal opening ought to correspond to the aperture in the urethra, and a flexible catheter should, if possible, be lodged in the bladder.

CHAPTER XXIII.

FISTULA IN ANO.

Fistulæ follow the abscesses, of which we have just treated, and have with propriety been divided into three classes, viz. those which communicate with the gut, and open on the cutaneous surface; those which, though they communicate with the gut, do not open externally; and those which do not communicate with the gut, but open externally. The number of external openings vary; generally, there is but one; but sometimes, two, three, or even more. There is seldom more than one internal opening; in some, particularly in phthisical subjects, there are two; and M. Ribes, who investigated this subject with the greatest care, says that he once observed three. Until the researches of this accurate investigator were published, surgeons were of opinion that the fistula frequently opened into the intestine, at a great heighth, a mistake which led to a severe and hazardous operation. He, however, demonstrated that the internal

orifice was generally situated immediately above the spot where the internal membrane of the rectum unites with the skin, sometimes a little higher up, but never more than five or six lines. In eighty subjects, the internal orifice did not exceed this heighth, and in a certain number, its elevation was not more than three or four lines.* I can bear testimony to the truth of M. Ribes' conclusions, for in none of nineteen subjects, was the internal orifice of the fistula situated higher than in those examined by this surgeon, and in the many cases I have operated on, I never found the internal orifice higher up, than the region of the internal sphincter, and hemorrhoidal plexus.

The internal orifice is sometimes round and callous, especially in phthisical patients. In other cases, and these by far the most numerous, it is irregular and soft. The external orifice in like manner may be round, and studded with exuberant granulations, which readily bleed, particularly when old; or it may be irregular and without granulations, especially when recent, and the result of gangrenous inflammation; for the skin, in such cases, is generally undermined, partially livid, and deprived of its vessels by the sloughing of the subjacent cellular tissue, so that it does not really possess the power of creating granulations. The parts surrounding these fistulæ are generally very hard, and

*Mémoires de la Société Médicale d'Emulation, tome ix. Paris, 1826, p. 135, 136.

some time they are so disorganized; that we trace with difficulty the course of the sinuses. If we examine a recent fistula, we shall find that there is a considerable cavity between its orifices, because the sac of the abscess, which gave rise to it, has not yet contracted. This cavity, however, gradually diminishes in size, until it becomes a simple tube, lined by a fine smooth tissue, resembling a mucous membrane, save that it is destitute of villosities.

The direction and situation of these fistulæ vary. We mentioned, when treating of hemorrhoidal tumours, how likely they were to suppurate, and in describing stercoraceous abscesses, how the entanglement of particles of fecal matter in the lacunæ of the mucous membrane gave rise to purulent collections. Both these forms of disease generate small fistulæ, situated either entirely within the sphincter, or in its substance. The other fistulæ open at a greater distance from the verge of the anus, and extend obliquely upwards and inwards, through the external sphincter, and cellular and adipose tissue, until they open into the gut. In this course they, sometimes, run between the sphincters, and then ascend a little, before perforating the mucous membrane; while at other times they pass through the fibres of the internal sphincter.

From what we have said, when treating of stercoraceous abscesses, it is very apparent, that a great many of them depend upon disease of the lungs; therefore, when they degenerate into fistulæ, we

should not operate on them, else their healing will give rise to an increase of the pulmonary disorder, and curtail life. There are also other sympathetic fistulæ, which it would be improper to meddle with, as those depending upon disease of the uterus, and spine, as well as those which occur in the last stages of other organic diseases. When, however, these complications do not exist, an operation becomes necessary, and this will vary according to the character of the case, which can only be determined by examination.

To examine a patient, he should be placed leaning over the back of a chair, or in the position for lithotomy; the buttocks being separated by an assistant, the surgeon ought to search for the external opening. If the fistula be large, and complete, he will find it at some distance from the anus; but, when small, it may be concealed in the folds of the fine skin close to, or at this orifice. Then, having oiled, and gently introduced his fore-finger, he should take a probe of large size, if the external orifice be far from the anus, and small, if in the folds of fine skin, and introduce it gently, rather in a transverse direction, varying its point according to the resistance it receives. In this way, if there be an internal orifice, he will soon discover it. Should the surgeon direct the probe more upwards, he will elevate it above the internal orifice of the fistula, and as the least force will be sufficient, especially in recent cases, to carry the probe onwards,

through the walls of the sinus into the cellular tissue, by the side of the gut, he will be impressed with the idea, that he is only pursuing the trajet of the fistula; and when he cannot find the internal orifice, he attributes his failure to the great heighth of the opening. I have committed this mistake myself, and how often have I not seen others do the same? How many persons are there not, even since the publication of M. Ribes' essay, who have had the rectum split open,—have been confined to their backs for weeks,—have been subjected to repeated operations,—and have been rendered miserable for life, who might have been rapidly cured, by a trifling operation?

Should we be unable to discover an external opening, we may suspect that there is an internal fistula, if there be difficult defecation, and the feces are streaked with matter. These symptoms, however, may depend upon other diseases of the rectum and anus; but they are sufficient to warrant a very careful investigation. The parts adjacent to the anus ought to be cautiously examined, and should this disease exist, we will generally be able to discover some induration, perhaps fullness, and, by pressure, matter will issue from the anus. When the finger is introduced, a depression marking the site of the orifice, can in most cases be discovered. If the fistula be small, concealed between the folds of the mucous membrane, and communicates with a small purulent sack, situated

within the sphincter, it may escape observation, and the patient be tormented with the most agonizing suffering. I once saw a case of this kind in a man, who had consulted various surgeons, and whose sufferings were as great, as those of any patient I have seen tormented with fissure. When he strained forcibly, and I made pressure on the verge of the anus, I perceived that matter issued from a point a little above; therefore, I passed a curved lachrymal probe into the sinus, which I laid open, and thus afforded him relief. I have seen some cases, in which there were several of these small fistulæ.

Having now ascertained the nature of the case, we ought to exhibit mild cathartics, poultice the diseased parts, and enjoin quietude, so that all irritation, both local and constitutional, may be allayed as far as possible. Then we should proceed to the operation.

M. Ribes has asserted, that it is never necessary to divide the gut, unless there is an opening in it.* My own experience has proved to me that this opinion is not correct; though, I admit, that such a step is seldom necessary, and I am perfectly satisfied that many of those who are constantly subjected to the division of the sphincters, would get well without it. Compression made with a piece of cork supported by an elastic T bandage,—the injection of a solution, the sulphate of zinc or copper, or nitrate of silver, of yellow wash, or port wine,—the horizontal position,—and, an easy state of the bowels, are gene-

* Op. cit., p. 138, 139.

rally sufficient for the cure. When, however, the cellular tissue has been extensively destroyed, we will sometimes be compelled, after the failure of the means mentioned, to divide the external, and, perhaps, a portion of the internal sphincter. This may be accomplished with a sharp pointed straight bistoury, armed with a small ball of wax, on Desault's gorget, or, we may introduce the finger into the gut, and a probe pointed bistoury with a projecting cutting edge, into the purulent chasm, and when the extremity of the instrument has arrived at the upper edge of the internal sphincter, provided the chasm be so deep, we should steadily cut on the nail of the finger which has been introduced into the rectum. Then, turning the finger round, and pressing it on the end of the bistoury, we ought to depress both hands, and thus divide the intervening parts. Some surgeons prefer performing this operation with Savigni's double bladed bistoury. When this instrument is used, it should be introduced with the sharp pointed blade concealed, until it arrives at the spot about to be transfixed; then, while the instrument is held steadily, the sharp pointed blade ought to be projected through the gut, and immediately withdrawn, so as to enable the surgeon to pass the united blades through the orifice thus made, and to complete the operation, as when he employs the single probe pointed instrument.

In some of these cases the integuments are livid and cribriform. They are badly supplied with

blood, in consequence of the sloughing of the cellular tissue, and no effort that we can use, will cause the chasm to fill up. The proper course under such circumstances, is to remove the diseased integument, and if then, after we have dressed the parts properly, the chasms do not fill up, we will be compelled to divide the sphincter. I have seen a great many cases of this kind, and have verified, repeatedly, the justness of what I have asserted. In some instances, I have merely divided the diseased integument, throwing the different openings into one, and extending the incision forwards, backwards, outwards, and inwards, to the union of the integument with the surrounding parts, but in all these cases I have afterwards been compelled to remove the angles of the flaps, as they curled up, became indurated, overlapped the wound, and in some instances cicatrized internally.

When the fistula is complete, the surgeon should introduce his right or left fore-finger into the anus, according to the side affected; then, with a probe pointed bistoury, he ought to traverse the sinus, and having placed the finger *in ano* on the extremity of the bistoury, he should cut his way out, either by steadily depressing both hands, as before described, or else by projecting the knife through the anus, and pushing it downwards, and to the opposite side. If the operator be inexperienced, he may first pass a director, and on it the bistoury.

If the fistula be either in the substance, or within

the sphincter, we will experience great trouble in using the common probe pointed bistoury; therefore, I would recommend the small knife, plate viii. fig. viii. I have employed it for a long time, and I think with great advantage.

When the fistula does not open externally, he may follow one of two methods, in the performance of the operation. In the first, the orifice being discovered by the finger in ano, the operator should carry the knife used for fissure along his finger, and fixing its extremity in the orifice of the fistula, he ought to cut outwards, dividing the sphincter, &c. In the second, having hooked a strong probe, and passed it into the fistula, he should press it down until it appears by the side of the anus, and then cut on its extremity, so as to convert the incomplete into a complete fistula; after which he ought to finish the operation with a probe pointed bistoury, as above described. If this species of fistula be small, and situated between the sphincter and mucous membrane, or in the sphincter itself, we should use the small sharp pointed bistoury, plate viii. fig. ix.

After these different operations for fistula, so much lint as will prevent the adhesion of the lips of the wound, should be introduced, and ought not to be removed by the surgeon, but allowed to come away with the feces. The patient ought to be confined to his bed, and his diet should be as meagre as possible. On the third day, a dose of oil should be exhibited, and after its operation, the wound ought to be cleansed, and a saturnine poul-

tice applied. On each succeeding day, until the wound is nearly healed, the surgeon should inject a little gruel and oil into the rectum, so as to procure an easy evacuation. On the fifth day, suppuration will be fully established, and generally the inflammation sufficiently subdued, to permit the introduction of a very small dossil of lint into the bottom of the wound; a practice which, when repeated a few times, insures the healing from the bottom. At one period, surgeons followed the hurtful practice of cramming the wound with lint, but for some years past, they have stepped into the opposite extreme, introducing but a very small quantity of lint, applying but one or two dressings, and insinuating a probe occasionally, between the lips of the wound, so as to prevent adhesion. Should bleeding follow the operation, gentle pressure will generally be sufficient to check it. If this fails, we may try the application of ice; but if necessary, we may remove the dressings, and introduce a blunt gorget or speculum, and thus expose the bleeding vessel, which ought to be seized with a forceps, and tied.*

Should the wound be slow to heal, we may exhibit Ward's paste or cubebs, and apply a lotion of the sulphate of zinc, sulphate of copper, or nitrate of silver, or we may prefer of the ointments of the oxide of zinc, superacetate of lead, white precipitate or nitrate of mercury.

* It must be confessed, however, that bleeding is a rare occurrence, when the operation is properly performed, though it is by no means uncommon, when the incision is carried high up.

CHAPTER XXIV.

CONTRACTION OF THE ANUS.

This condition of the anus may be produced; firstly, by the approximation of portions of skin naturally at a distance; secondly, by the deposition of lymph in the submucous cellular tissue, constituting a species of ring around the anus; thirdly, by the effusion of lymph on the surface of the mucous membrane, which frequently assumes the form of filamentous bands; and fourthly, by a process of disorganization, manifested by irregular thickening, cartilaginous induration, and partial ulceration of the fine skin and mucous membrane, extending upwards, sometimes, for more than an inch.

The first species results from excision of hemorrhoidal or other tumours, the second and third

from inflammation,* while the fourth arises from the syphilitic poison.†

The symptoms of this affection, are similar to those of stricture of the rectum;‡ the pain in the last mentioned species is, however, more severe, and attended with constant purulent discharge. Sometimes, in consequence of the contracted state of the anus, defecation gives rise to longitudinal laceration of the mucous membrane, which is soon followed by spasmodic contraction of the sphincter ani, constituting the disease called fissure.

The introduction of the finger, which is attended with great pain, determines the nature of the disease, and enables us to assure the patient that, though it is attended with more suffering, provided it be not of the syphilitic species, it is much less dangerous, and not only more speedily, but more effectually cured, than stricture of the rectum.

* Sir C. Bell says, that the cause of the inflammation "for the most part is costiveness, and straining, by which the fibres are strained, and burst, and become inflamed. Sometimes, I believe, it may come from tenesmus, and frequent excitement of the orifice, by painful and ineffectual calls to evacuations." A treatise on the Diseases of the Urethra, Vesica Urinaria, Prostate, and Rectum, London, 1832, p. 321—2.) This explanation is very ingenious; but I am inclined to think that it is not applicable even to the majority of cases of this kind.

† As mentioned in the ensuing chapter, many authors have attributed stricture of the rectum to the action of the syphilitic poison; but Mr. White was the first to describe the peculiar contraction of the anus, now mentioned. (Observations on Strictures of the Rectum, &c., by W. White, Bath, 1820, p. 18.) Calvert has also very well described it. (A Practical Treatise on Hæmorrhoids or Piles, Strictures, and other important Diseases of the Rectum and Anus, by George Calvert, London, 1821, p. 196.)

‡ See chapter xxv.

In the treatment of this disease the bowels should be kept soluble with castor oil, lenitive electuary, or emollient enemata, and the diet ought to be the same as in stricture of the rectum; should there be inflammation, leeches and fomentations will be necessary; when there is a fissure, the sphincter must be divided; if there be hemorrhoidal tumours, they ought to be removed; and if there be much pain, and nervous irritation, anodynes will become necessary. In all cases, the anus ought to be dilated with bougies,* and here I would observe, that great caution is even more necessary than in stricture of the rectum, especially when the disease is cutaneous, else, much pain, weight in the loins, abdominal distress, and disturbance of the general health will ensue. When the contraction is the result of disorganization, produced by the syphilitic poison, antisyphilitic remedies should be employed, though they are, for the most part, inefficacious, as such affections are generally fatal.

The following cases will serve to illustrate what I have said on the subject.

In November, 1831, I removed several large, ulcerated, old, external hemorrhoidal tumours, from Mrs. R. When the parts had nearly healed, she returned to the country, but did not use the bougie as I had recommended; the consequence of which

* Sir C. Bell says, that stricture produced by the marginal integument, admits of extirpation by the knife. (Op. cit. p. 322.) This is not the species of advice one would expect from so reasonable a surgeon as Sir C. Bell.

neglect was, contraction of the anus, and a small fissure. She, therefore, came to New-York, and consulted me. To be short, I cauterized the fissure, and so completely dilated the anus with the bougie, that in less than a month, she returned to her home in good health.

Mr. D. complained to me in the latter end of 1829, of difficulty in defecating. He said, that he had been subject to piles for several years; but, that until within ten months, he could always evacuate his bowels easily. I examined him, and found that the anus was exceedingly narrow. This state of contraction seemed to depend upon infiltration of the subjacent cellular tissue. I recommended the introduction of the bougie, and emollient lavements, both of which he used as directed, so that, in a few weeks, the parts had regained their natural condition.

I have at this time a lady under my care, who was handed over to me by Dr. Fanning. About six years ago, she had an attack of dysentery, in consequence of which, lymph was effused on the mucous membrane within the internal sphincter, and gave rise to such adhesions, that when I first examined her, I could not introduce my little finger. However, by the use of the bougie, and castor oil, I am happy to say, that the orifice is now nearly of its proper size.

An officer who had been engaged in many a well contested field, and had endured great fatigue, and

many privations while campaigning, became the subject, in succession, of hepatitis, dysentery, ague, and dyspepsia. By proper medical treatment, and great attention on his own part, he improved much, but never regained his former state of health. In 1824, he contracted an ulcer on his penis, which healed with great difficulty, and was soon followed by secondary symptoms, under which his health rapidly deteriorated, and when I saw him in the summer of 1826, he was greatly emaciated, with nodes on his bones,—an eruption on the skin,—chronic iritis,—and induration, thickening and partial ulceration of the marginal integument and mucous membrane of the anus. He had suffered most annoyance from this last affection, having much purulent discharge, constant tenesmus, and excruciating torture, both at and after stool. Leeches, fomentations, saturnine and opiate poultices, the introduction of meshes of lint besmeared with lard and the extract of belladona, as well as emollient and anodyne lavements, were tried in vain, at the same time that sarsaparilla and the oxymuriate of mercury were administered.

This poor fellow sunk in a few months, and on dissection, about an inch and a quarter of the extremity of the gut was found diseased.*

* The cases described by White and Calvert, were in females.

CHAPTER XXV.

STRICTURE OF THE RECTUM.

This disease is either functional or organic. For a long time, I doubted whether there was such an affection as functional or spasmodic stricture of the rectum; but a case fell under my care three years ago, which dispelled all doubt, and within the last summer, I have seen another. I shall now give an outline of each of these cases.

Mrs. C., an exceedingly nervous lady, for seven months had suffered under weight and pain in the loins, fullness of the lower part of the abdomen, flatulence, want of appetite, and sourness of the stomach. She scarcely ever had a motion without taking medicine, and her evacuations, when of a certain consistence, were small, figured, and voided with difficulty. On examining the rectum with the finger, every thing appeared natural; but, when she stood erect, and strained forcibly, I was enabled to insinuate my finger into a portion of the bowel.

which was considerably contracted. There was neither induration, nor thickening of the coats of the intestine, and by gentle pressure with the finger, the contraction nearly disappeared. I ordered her small doses of blue pill, cathartic extract, and ipecacuanha, also, an infusion of columbo with soda; at the same time that I daily introduced the bougie, and allowed it to remain in for an hour. In the course of a week, I diminished the quantity of medicine, and introduced the bougie but every other day. Her dyspepsia disappeared, and within two months her stools were natural.

Mr. H., who was under my care this summer, was attacked two years ago, after exposure to wet, with symptoms of inflammation of the bladder, which continued, notwithstanding antiphlogistic remedies were employed. He emaciated, became dyspeptic, much constipated, and when the feces were soft, his evacuations were small, and figured. On examination, I found the sphincter ani in a state of spasmodic contraction, (see page 125,) as well as a portion of the rectum which the finger barely reached, when he stood erect, and forced down. His bladder and urethra, were in a highly irritable state, and his urine was loaded with lithic acid. By a vegetable diet, tepid hip-baths, soda, pills of the blue mass and cathartic extract, together with the use of the bougie, he recovered in three weeks.

Organic stricture is supposed by many to be of very common occurrence, but I have not found

it to be so; for the cases I have seen, bore no proportion to the number I ought to have met with, were the statements made in books correct.

Independently of the malignant forms of disease hereafter to be described, I have very seldom seen a contraction of the rectum, which was not within the reach of the finger.*

* As there is much discrepancy of opinion on this point, the following quotations may not be uninteresting to the reader. Mr. White says, "The situation in which we meet with stricture in the alimentary canal, is most commonly about the termination of the colon; this may be reasonably expected, when we take into consideration, that the gut is naturally more exposed to pressure at its curvature, (where its diameter is generally least,) and at the projection of the sacrum, from the accumulation and passage of hardened fæces, than at any other part of the canal. Although I have just stated, that when a stricture is discovered in this situation, there is often another, a few inches lower in the gut, yet, I must beg leave to observe, that this does not uniformly happen, having met with several cases of stricture about the termination of the colon, where there has been none lower down in the intestine. And, sometimes, strictures have been found between three and four inches from the anus, where there has been none higher up." (Observations on Strictures of the Rectum, third edition, p. 47, Bath, 1820.)

"In the majority of cases which have fallen under my observation, the stricture has been situated between five or six inches from the anus, about the situation of the angle, formed by the first portion of the rectum, and where, when the bowels are torpid or constipated, feculent matter is most likely to accumulate. Next in frequency, I have discovered the disease at the junction of the sigmoid flexure of the colon with the rectum. It is at these points we shall more generally find that description of contraction, which results from what is denominated hyperthrophy of the sub-mucous coat. Circular stricture, however, will almost always be found within the reach of the finger, owing to the redundancy of the circular muscular fibres, at the extremity of the rectum." (A Practical Essay on Stricture of the Rectum, by Frederick Salmon, p. 23, London, 1833.)

"—not unfrequently, the inner edge of the deeper sphincter ani being the seat of this stricture; and then the finger only enters to the depth of the second joint, when it is obstructed by a sort of membrane, standing across the passage. Sometimes the stricture is more than two inches within the anus, and feels like

I have examined four cases of stricture of the rectum, after death, which had not caused any disease in the surrounding parts. In one, the lesion seemed to be confined to the muscular tunic and

a perforated septum." (C. Bell on the Diseases of the Urethra, Vesica Urinaria, Prostate, and Rectum, p. 330, London, 1822.)

"The ordinary seat of stricture of the rectum, is from two and a half, to four inches from the orifice of the gut. But sometimes it occurs at a greater distance, at six to seven inches for example; and a contraction of the same nature is occasionally met with at different parts of the colon." (Observations on Injuries and Diseases of the Rectum, by Herbert Mayo, p. 165, London, 1833.)

"If the finger be introduced into the rectum, the gut will be found either obstructed with small tubercles, or intersected with membranous filaments, or else the introduction of the finger will be opposed by a hard ring of a cartilaginous feel." (Observations on the Principal Diseases of the Rectum and Anus, &c., By Thomas Copeland, third edition, p. 9, London, 1824.)

"In a few instances, the stricture has been seated so high up in the gut, that it could be but barely touched with the point of the finger, until the patient was desired to 'force down,' and then a satisfactory examination of it could be made." (Colles, Dublin Hospital Reports, vol. v. 139.)

"Stricture of the rectum, most commonly occurs near the termination of the gut, a little within the sphincter, but it may take place in any part of the rectum; sometimes the whole gut is lessened in diameter, and on other occasions the stricture is situated in the sigmoid flexure of the colon." (A System of Pathological and Operative Surgery, by Robert Allan, vol. iii. p. 488, Edinburgh, 1824.)

"Stricture is readily ascertained by examination with the finger." (Elements of Surgery, by Robert Liston, p. 73, London, 1832.)

"It is generally found about two inches and a half, or three inches distant from the orifice, but may be situated much higher up." (The Principles of Surgery, by James Syme, p. 445, Edinburgh, 1832.)

Before I finish this note, I may mention that, the inexperienced are apt to refer the opposition offered to the passage of the bougie, by the folds of the mucous membrane or the projecting ridge of the sacrum, to stricture of the gut. I am mortified to add, that, I have good reason for supposing there are a few who make a profitable trade of treating dyspeptic patients for stricture of the rectum, asserting that the obstruction is high up, when in truth, this intestine is perfectly free from structural disease. Such practitioners, by passing bougies, apparently cure, what in reality never existed, and thus obtain a character for skill in the treatment of this disease, which in truth they do not possess.

cellular tissue; in another, to the cellular tissue alone; and in two, to the mucous coat and cellular tissue. The alteration of structure, seemed to depend upon the deposition of lymph, which gave to the parts more or less hardness. The extent of the stricture varied from one quarter, to one inch, occupying the entire circumference of the gut, but in two cases, while in one it scarcely passed half around it. In each, the canal was contracted, and especially in one of those, in which the mucous membrane and cellular tissue were involved. So great indeed was the obstruction in this case, that it would not permit the extremity of the little finger to pass. The exterior of the intestine in each, appeared to be indented, while the interior was rendered irregular, by the folding or puckering of the mucous membrane; and in the two cases, in which this tunic was diseased, the inequality of surface was still further increased by vascular excrescences, which, in one, projected considerably into the bowel.*

* Morgagni gives the case of a woman who died in the Hospital at Bologna, in consequence of disease of the rectum, which, on dissection, was found to consist in a growth of protuberances, from the inner surface of the intestine, commencing six or seven digits from the anus, and extending to within one of this orifice. The coats of the rectum were hard and thick, and the protuberances, which were about the size of large beans, were smooth on the surface, solid and compact in their texture, and in colour and form resembled conglobate glands. (De Causis et Sedibus Morborum, Epist. xxxiii. 7.)

Desault has described an affection of the rectum, which consists in a growth of tubercles from the mucous membrane. These he calls *squirrhosités*. (Ouvres Chirurgicales par Bichat, tome ii. p. 422, Paris, 1830.) Richerand treats of *condylomes internes* of the rectum. (Nosographie Chirurgicale, tome iii. p. 438, Paris, 1815.) Delpech, says that the rectum is sometimes obstructed by tubercles. (Précis Elémentaire des Maladies Réputées Chirurgicales,

I have seen this disease in a lad nine years old, but the rest of those I have examined, were under sixty, with the exception of a gentleman, who fell a

tome i. p. 594, Paris, 1816.) Sanson, speaks of very hard tubercles growing from the mucous surface of the rectum. (Nouveaux Elemens de Pathologie, tome v. p. 152, Paris, 1833.) White says, that the capacity of the rectum is lessened by tubercles. (Op. cit. p. 18, 19.) Copeland, writes, "but if the finger be introduced into the rectum, the gut will be found obstructed with small tubercles." (Op. cit. p. 9.) Finally, Calvert has expressed the same opinion. (A Practical Treatise on Hæmorrhoids and other Diseases of the Rectum, London, 1824, p. 129.) Neither Morgagni, Desault, Sanson, White, Copeland, nor Calvert, say that these tubercles depend upon any specific cause; however, both Richerand and Delpech, assert most distinctly, that they depend upon the venereal poison. My own opinion is, that condylomata may form in or about the anus, either from or independent of the venereal poison, and be so large as to partially obstruct the bowel. I am also, pretty confident that, when tubercles of a different character form in the bowel, they are malignant; for I have never yet seen a case, nor examined a specimen, that would lead me to a different conclusion. Indeed, I think that the following passages from the work of Desault, quoted above, will help to sustain me in this opinion. "Le dernier surtout en est très-souvent affecté, et la pratique de l'Hôtel Dieu fournit journellement l'occasion d'y observer cette maladie." That stricture, or even malignant transformations of the rectum, is so frequent as to be of daily occurrence at the Hôtel Dieu, is contrary to all experience; though, it is not difficult to conceive that condylomata may be very common in the lower classes of the French. "Si on ne s'oppose pas à leur progrés, ces tubercules augmentent, bouchent complétement l'intestin, s'ulcèrent enfin, se recouvrent de veines variqueuses, donnent lieu à de fréquentes hémorrhagies, prennent un caractére cancéreux, se propagent sur les parties voisines; à cette époque il n'est pas rare qu'une crevasse ait lieu dans le vagin; par elle s'échappent alors les matières fécales." I am rather disposed to think, that, the cases which led Desault to form this opinion were cancerous from the commencement.

Bonetus described the dissection of a patient who died of inflammation of the bowels, in the following terms: "Dissectô ventre tumidô, stercorei halitus fugabant, ventriculus et intestina flatibus et excrementis fluidis extremè reperiebantur distenta, gangrænosa, nonnullis in locis exesa. Rectum fibris quasi tot filii decussatim erat constrictum, ut neque sursum, neque deorsum quiquam transire potuerit. Quis ver mali istius potuit esse præsagus? Lynceus hic taceat vis clandestina peremit." (Sepulcretum sive Anatomia Practica, tomus secundus, p. 269. Observatia xiii. Lugduni, M,DCC.) Morgagni mentions a case, recorded by Tulpius, in which the rectum was much strictured, and its

victim to it in his seventy-second year. As to its comparative frequency in the sexes, I find, that out of fifteen cases, which is all I have seen of genuine stricture, eight were females.*

cavity interwoven with membranous filaments, in consequence of the pressure of two calculi in the urinary bladder. (Op. cit. Epist. xxxi. v.) White mentions the case of a woman, in the Bath Infirmary, the parietes of whose rectum adhered in consequence of the pressure of an enlarged and schirrous uterus. (Op. cit. p. 22.) Lastly, Copeland says he has twice seen the disease (stricture) under this form, and, in both cases, it was preceded and accompanied by the hæmorrhoidal excrescence. (Op. cit. p. 19.) From the language of Copeland, I have no doubt but that the adhesion was immediately within the anus; in the cases by Tulpius and White, the pressure of the calculi in one instance, and that of the womb in the other, explains satisfactorily the cause of the adhesion of the pouch; but with respect to the case related by Bonetus, it is to be regretted that this accurate anatomist did not specify the part of the rectum thus affected, as, by so doing, he would have deprived some authors of the materials with which they have created a species of stricture of the rectum, caused by the intersection of filamentous bands, as specified under the head of stricture of the anus. I have, in two instances, seen such bands within the portion of the bowel surrounded by the internal sphincter, but not elsewhere.

* "An opinion has been held, that women are more subject to this disease than men. With this, however, my experience does not agree, as the greater number of those by whom I have been consulted were males; yet I would not even from this, infer that men are more liable.

"Although no age or sex appears to be exempt from this complaint, yet it does not so frequently come within our knowledge, until persons have arrived at the meridian of life; the number afflicted at that period, has certainly been much greater than at any other. At the same time it is proper to notice that even in several of these cases, symptoms of the disease had been experienced at an early age." (White, Op. cit. p. 8.)

"It attacks people of both sexes, and of almost all ages; but it is more common about the middle age; and I think, as far as my experience goes, that women are more frequently affected than men." (Copeland, Op. cit. p. 8.)

"Strictures of the rectum do not appear to be confined to any age, though I believe they are much less frequent during infancy; at least those in which the coates of the gut are more or less changed, thickened, and permanantly contracted. They are said to be more common in the male than in the other sex; but the difference in this respect, if there be any, is scarcely worthy of notice." Calvert, Op. cit. p. 121, 122.)

Some authors are of opinion, that there is frequently a predisposition to stricture of the rectum. This, I will not deny, but at the same time, I must confess I am sceptical, because my own observation has not furnished me with a single fact, tending to the conformation of such opinion.*

"This disease spares neither sex or rank; it most frequently attacks those who are about the meredian of life; sometimes, however, it afflicts children as early as the seventh or eighth year of their age. I have not met with any instance, where it attacked a person at or beyond sixty years of age." (Colles, Op. cit. p. 131, 132.)

The above quotations show, that a diversity of opinion prevails, as to the comparative frequency of stricture of the rectum in the sexes, a point, which must be decided by extensive observation, taking care to exclude cases of a malignant character, of diseases confined to the anus, and those in which the obstruction depends upon an enlargement or displacement of the womb, scirrhus of the prostate, tumours, and intussusception.

* Mr. White was the author who first started this opinion. He says: "Although it would be absurd to suppose that every case of habitual costiveness proceeded from mechanical obstruction in the passage, yet, from various conversations I have had with different sensible persons, (some medical,) who laboured under stricture of the rectum, I am much inclined to think that the predisposing cause is the gut being somewhat narrower about the termination of the sigmoid flexure of the colon, than it ought to be for the purpose of allowing a free and easy passage to the fæces. There is another circumstance, also, which is deserving of notice; as it has very much tended to confirm the above opinion, respecting the predisposing cause of strictures; and that is, several members of the same family having been afflicted with the disease, which has happened, to my knowledge, in different instances. Such an occurrence cannot, I think, be more satisfactorily accounted for, than by supposing some original malformation in the passage. I think it is not improbable, that sometimes the passage of the fæces may be interrupted, in consequence of an unusual projection of the last lumbar vertebra, or the superior part of the sacrum." (Op. cit. p. 26.)

Calvert appears to be a convert to White's views, concerning the original narrowness of the sigmoid flexure of the colon; (Op. cit. p. 158.) while, Salmon not only admits this, but also asserts that he has "repeatedly noticed several members of the same family afflicted with stricture." (Op. cit. p. 18, 19.)

Stricture of the rectum, arises from inflammation, and this may be created by any of the causes specified in the fifth chapter.*

That the normal condition of the canal of the large intestine, at the junction of the sigmoid flexure of the colon with the rectum, disposes to stricture, I deny; because if this were the case, the disease would be much more common than it really is, and though I have spent more than one half of my professional life in anatomical pursuits, I declare that I have never seen a single instance of preternatural contraction of this portion of the bowel, without organic lesion. Nor can I assent to the common occurrence of this disease in several members of the same family, until I either verify it myself, or be assured of its correctness by a disinterested surgeon, adroit in his manipulations, and conversant with pathological anatomy. Finally, when Mr. White alluded to the obstruction caused by the sacrum, he forgot that the intestine had a mesentery at this spot, and consequently fell so far forwards, as to destroy any influence which the sacrum might otherwise have.

* Mr. White says that, "a diminution in the capacity of the canal, is primarily owing to a contraction, and gradual thickening, of the muscular coat." (Op. cit. p. 17.)

Mr. Calvert is of opinion, "that inflammation in any part of the intestine may induce a spasmodic contraction of the muscular fibres of the part will not be questioned; and hence, although, in some instances, it is the immediate cause of stricture, as when a fold of the rectum, near its lower extremity, being infiltrated with fluids, is forced into the cavity, in the form of an irregular ring, or coagulable lymph being thrown out, a new substance is formed from the surface, yet it must often be considered as the main exciting cause of stricture under other circumstances."

On the other hand, it is not improbable that partial contractions may remain after attacks of colic, or many other violent affections of the intestines, and afterwards become the seat of permanent stricture. — these parts (colon and upper part of the ilium) might never regain their former state of elasticity or distension, and at a subsequent period, from a gradual change of structure, and a proportionate contraction of the muscular fibres, cause such a narrowing of the canal as to prevent the regular passage of the contents, and produce eventually a fatal obstruction." (Op. cit. p. 153, 154.)

Salmon, also, lays great stress on the contraction of the muscular coat. He thinks that it precedes organic lesion in the greater number of cases. (Op. cit. p. 20.) We have no evidence that this contraction takes place, nor is it necessary. The reasoning of these authors is hypothetical.

In almost all the cases I have seen, the disease came on slowly, and the patient for a considerable length of time had been ignorant of its real nature.* It matters not, however, whether it has followed a slow or rapid course, symptoms become manifest

Sir C. Bell entertains peculiar views concerning the formation of simple stricture of the rectum. He says, "it is a consequence of inflammation in the gut, excited by frequent ineffectual efforts to propel the fæces in a constipated state of the bowels. The sphincter, in this condition, does not relax, nor does the intestine itself act. The whole propelling power is in the abdominal muscles. The rectum, urged down by pressure from above, forms a fold of the inner coat, just above the inner sphincter. By repetition, inflammation and adhesion of the outer surfaces of the fold take place, and by these means losing its softness, and yielding nature, it becomes a permanent septum, standing nearly across the gut." (Op. cit. p. 333.)

Wiseman has related a case, in which stricture of the rectum followed the operation for fistula in ano. (Chirurgical Treatises, &c., third edition, London, M,DC,XCVI, p. 234, 235.)

Copeland says that stricture is sometimes the consequence of the operation for fistula. (Op. cit. p. 15.) It must be confessed that such cases are very rare. It is common, however, to see cases of fistula arising from stricture of the rectum.

Salmon thinks that some peculiar condition of the sphincter ani gives rise to this disease. (Op. cit. p. 15.) In this opinion, I cannot agree with him; but that fissure and spasm of the sphincter are, sometimes, secondary to stricture, I am satisfied of, as I have seen a few such cases.

Desault, (Op. cit.) Richerand, (Op. cit.) Delpech, (Op. cit.) and Sanson, (Op. cit.) say that stricture of the rectum is frequently produced by the venereal poison. This I am inclined to doubt. I have not seen such cases, and I do not think that they have given any evidence to justify their opinion. On analysis, all they have said resolves itself into assertion,—not proof.

* On this subject, Mr. Colles says, "In some few cases the patient appears to be fully aware of the moment of the first attack of this disease; for he tells us, that without any previous illness, the bowels, at a certain period, suddenly became costive; that for the purpose of relieving them, he took large and repeated doses of physic, for three, four or five successive days; that at length his bowels suddenly gave way, and a very severe purging took place, which having continued for a day or two, was then succeeded by those symptoms which attend the disease when fully formed." (Op. cit. p. 132.)

as the obstruction increases, which demand an examination *per anum.*

There is a sense of weight and obstruction in the lower bowels,—uneasiness, distension, and occasional spasmodic pain in the abdomen,—eructions,—precordial oppression,—pain in the site of the stricture, loins, and sacral region, occasionally extending down the extremities,—vesical irritation,—bearing down in females,—itching and heat about the anus,—head ache,*—nervous irritability,—and dejection of spirits. The left colon is loaded with gas and feces, as may be ascertained by an examination of the corresponding iliac fossa. The urine is generally scanty, high coloured, and fetid, though I have seen a few cases in which it was unusually abundant and limpid. The bile is also generally vitiated and scanty. When the disease has continued for some time, the hemorrhoidal vessels become engorged, and very commonly tumours form, which, for the most part, are produced by extravisated blood, (see page 163,) and hence it is that in old cases, the skin about the anus becomes thickened and elongated.† In con-

* Mr. White says: "Pain in the head, especially towards the occiput, is another very common symptom attendant upon the complaint." (Op. cit. p. 38.) I have never seen a case in which the pain was confined to this region.

† On this point, Mr. Colles says: "Proceeding to make this examination, we often observe at the orifice of the anus, the following appearance, which is indeed almost always present when the disease is seated near the external sphincter, namely, at each side of the anus a small projection, which on its external surface appears as a mere elongation and thickening of the skin, but internally, presents a moist surface, not exactly like the lining membrane of

sequence of irritation arising from the stricture, an increased quantity of blood is determined to this region, and its return is so much impeded by the condensation of the walls of the bowel, and the accumulation of indurated feces, that abscesses form in the cellular tissue, near the anus, and degenerate into fistulæ. The calls to stool are sudden, and amount to six or twelve in twenty-four hours; generally, two, three, or more, take place within a short time, and are accompanied with much straining, which, in some instances, especially when the stricture is situated high up, gives rise to protrusion of the mucous membrane.* Much gas and a small quantity of mucus, occasionally mixed with blood, is all that is commonly discharged; but every two or three days fecal matter, in small pellets if hard, and in long, round, angular or flattened portions of small diameter if soft, is expelled. After each attempt, though the pain is very moderate,† a sensation continues as if the bowels had not

the gut, nor yet can we say that it is ulcerated; these two projections lie close together below, and divaricate above, presenting a resemblance to the mouth of an ewer." (Op. cit. p. 137, 138.) I must say I have never observed that the skin and mucous membrane of the anus, when elongated in stricture of the rectum, assumed a peculiar form.

* Mr. Colles says: "There is not the slightest prolapsus ani with any of these evacuations." (Op. cit. p. 133.) Mr. C. is certainly in error. Two years ago, I operated on a gentleman for prolapsus ani; but afterwards ascertained he had a stricture of the rectum, about four and a half inches from the anus.

† Mr. White observes, that the feces "are often discharged with a squirt, sometimes accompanied with a sudden and loud explosion of wind." (Op. cit. p. 35.) In the next page, he makes so clear an exposition of a mistake

been emptied, and this is the reason why, in these cases, several evacuations, such as they are, follow one another at short intervals. When, however, a sufficient quantity of mucus or feculent matter has been discharged to give temporary relief, and from habit the amount is very trifling, the patient, who has been fatigued, desists from further attempts, until a sense of fullness indicates the necessity of making another effort. Occasionally, when the feces accumulate above the stricture, which they frequently do in immense quantity, they are rendered fluid by an abundant secretion from the mucous membrane; in consequence of which, the patient is enabled to discharge

which may be committed from an examination of the feces voided, that I shall give it at full length. "With regard to the lessened diameter of the fæces just noticed, which must necessarily be the case, whenever a permanently contracted state of the gut takes place; yet it has happened, in some instances, where that change had been observed, that in a more advanced period of the disease, fæces of a natural size had occasionally passed. If the stricture should happen to be so low in the rectum as not to allow room for the accumulation of fæces, it must appear that they will be found uniformly small in diameter, while they continue to be discharged in a figured state. And also, when the stricture is high up in the rectum, so long as the gut below retains its natural expulsive powers, an accumulation will be prevented, and the diminished size of the fæces will continue. But, as the disorder increases, the inferior portion of the intestine loses its power; and when the contraction becomes considerable, a small quantity of fæces only pass at a time through the stricture, and not being sufficient to stimulate the lower part of the rectum, an accumulation goes on from time to time, until at length it becomes difficult to remove; and on these occasions, fæces of a natural size have been sometimes discharged." (Op. cit. p. 36, 37.) In illustration of this statement, he mentions the case of a clergyman, who died with a stricture in the upper part of the rectum, yet a few days before death, passed a mass of fæces "as large as the natural diameter of the gut."

nearly or perhaps all the accumulated matter: thus, by an effort of nature, fatal consequences are warded off.

When the stricture is fully within the reach of the finger, the canal feels narrow, indurated, and unyielding, for a greater or less extent, and in some instances we are able to pass the finger through the obstructed portion. Occasionally, it is rather higher up than we can reach; but in such cases, if the patient bears down forcibly, the diseased portion of the intestine will so far descend, as to admit of the requisite examination. When, however, the stricture is situated still higher up, we should sound the gut with the instrument recommended by Sir Charles Bell, which consists of an ivory ball mounted on a stalk of whalebone. This instrument is much preferable to the bougie, because when the ball is once introduced, the anus is no longer on the stretch, and if there be a second stricture, we can ascertain it with precision: perhaps, I might also add, that, with it the extent of the stricture can be more correctly determined. In consequence of the great tenderness of the stricture in some cases, this examination is attended with considerable pain.

A most remarkable feature of this disease is, that oftentimes many years pass by, and the patient's general health remains unimpaired, in spite of the retention of the feces, and the daily suffering he undergoes. Ultimately, however, he loses his appe-

tite, becomes pale, emaciated, and hectic, as manifested by daily fever, and nocturnal perspiration. Purulent matter, so acrid as to excoriate the anus, is now discharged in great abundance, and frequently it comes away when he coughs, or assumes the erect position. These symptoms increase until life is exhausted. Some patients, however, die from the accumulation of feces, before the disease has arrived at the stage now described,—they become melancholy, pallid, excessively flatulent, and breathe with difficulty, in consequence of the resistance to the descent of the diaphragm caused by the distension of the abdomen,—the pulse lose their strength and regularity,—hiccough sets in, and they sink with symptoms of ileus; but before well marked enteritic inflammation becomes manifest they are generally more or less troubled with cold feet, cramps in the legs, and a determination of blood to the head, all of which arise from the pressure made upon the aorta, or its primitive branches. On examination after death, we find that the intestines are not only amazingly distended, but inflamed, and even partially sphacelated.

In some very few cases, the stricture is partially destroyed by ulceration; but it is much more common for the rectum immediately above it to be thus affected. In such cases, it generally happens that this intestine becomes incorporated with the bladder in the male, and with the vagina in the female, so that an extension of the ulceration may give rise

to a recto-vesical or recto-vaginal fistula, through which the feces will be partially evacuated. A much more common consequence, however, of the ulcerative process, especially when the stricture is low down, is extravisation of fecal matter into the cellular tissue, and the formation of stercoraceous abscesses, which degenerate into fistulæ. The number of these fistulæ varies, sometimes there is but one or two, at others from six to twelve, or even more, particularly in women, in consequence of the greater abundance of cellular tissue in the perineum. In some instances, especially when the disease is situated high up, the rectum adheres to another intestine, and by a continuation of the ulcerative process, a communication is established between them; but it much more frequently happens that no such adhesion exists, and consequently that the fecal matter is effused into the peritoneal cavity, an occurrence which is followed by a rapid and most horridly painful death.

Retroversion of the uterus, enlargement of this organ or of the prostate gland, as well as tumours developed in the vicinity, may simulate stricture, by partially approximating the sides of the rectum, thus rendering defecation difficult, causing figured stools, tenesmus, mucous discharge, fullness, and a sense of weight in the sacral and perineal regions.

Malignant affections, hereafter to be described, have also many symptoms in common with this dis-

ease; but the sallow and leaden countenance, the lancinating pains, and the rapidity of the ulcerative process in the former, will enable us to arrive at a proper conclusion.

Ulceration of the rectum, when attended with spasm of the sphincter, fissure of the anus, or spasm of the sphincter itself, may, by the inexperienced, be confounded with stricture; however, the excessive pain which attends and follows the evacuations in spasmodic affections of the anus, will sufficiently mark the difference between them, and that of which we are now treating; yet, it ought to be borne in mind, that spasm of the sphincter may co-exist with stricture.

Finally, painful chronic affections of the vagina may simulate stricture of the rectum, in consequence of the contiguity and nervous association of these organs. The diagnosis, however, is easily determined by an examination.

On the other hand, stricture of the rectum may be mistaken for a sarcomatous tumour, growing into the intestine; for when the feces collect above the stricture, they may so depress the walls of the bowel, together with the stricture itself, as to simulate a fleshy tumour with an extensive base. By searching cautiously, however, we shall be able to discover an opening in it, into which we can insert the tip of the finger, and thus discover the impacted and indurated feces.

During the treatment of this disease, the patient should be kept as much as possible in the horizontal position, and restricted to a diet, which, though nutritious, yields the least excrementitious matter, such as animal jellies, strong broths, fresh eggs, arrow-root, sago, tapioca, &c. The bowels ought to be kept easy by injections consisting of gruel and sweet oil, administered with the pump and elastic tube, which should be of such size as to pass easily through the strictured portion of the gut. Some patients object so strongly to injections, that we are compelled to have recourse to purgatives; under such circumstances, we ought to avoid prescribing active cathartics, for they cannot fail to do harm: castor oil, crystals of tartar, manna, and the lenitive electuary, are the most appropriate remedies, though very inferior to enemata. Pain and irritation should be allayed with anodyne supposotories, enemata, and hip-baths. If there be inflammatory symptoms, leeches ought to be applied around the anus, and diluent drinks freely taken.

When the stricture is near the anus, narrow and firm, the surgeon may hook it down with his finger, and then partially divide it, in two, three, or more points, with a hernial knife; after which he should insert a short bougie, so as to prevent adhesion of the incisions. This instrument ought to be introduced completely within the anus, and then secured in its place, by connecting a T bandage with the loop of tape attached to

its thick extremity.* A full dose of morphine should then be exhibited, and the patient put to bed. If there be much irritation and pain after the operation, the bougie ought to be removed without delay, and fomentations or hip-baths, anodyne enemata, and perhaps leeches employed, according to the urgency of the symptoms. Provided, however, that there has been no necessity for any interference, and that a dose of morphine has sufficed to keep the patient quiet, we ought, at the expiration of thirty-six hours, to remove the bougie, free the bowels with an enema, and again replace the instrument; after which, we should proceed with the dilitation in the ordinary manner.

The introduction of the bougie in some persons, is attended with more pain and irritation than in others, as manifested by general uneasiness, aching in the loins, shivering, sickness of stomach, and pain in the abdomen; consequently, the frequency

* I think that many partial incisions are preferable to a single deep one; because they are not so likely to be followed by hemorrhage, inflammation, or adhesion, and the bougie, when introduced, still continues to act on the edge of the stricture; whereas, when there is but one deep incision, the introduction of the instrument causes the edge of the stricture to turn upwards, and the pressure is then directed against its inferior surface. If the stricture be divided high up, and hemorrhage ensues, we must depend upon astringent injections for checking it; whereas, if it be low down, we can dilate the anus with a speculum, so as to discover the seat of the bleeding, and thus be enabled to apply pressure, the cautery, or ligature.

These directions are all important, for if the bougie be allowed to protrude through the anus, it will create so much tenesmus, as to render its removal necessary; and if after it has been passed above the anus, it be not secured, it may be drawn up into the gut, perhaps beyond the stricture.

of the introduction, and the length of time it may remain introduced, ought to vary in different cases, else peritoneal inflammation, and even death may occasionally occur. In some patients, we shall not only be enabled to repeat the operation daily, but to allow the bougie to remain in the bowel for an hour or more. In others again, once or twice a week will be as often as we dare employ it, and even on such occasions but for a very short time. For the same reasons, we can in some cases increase the size of the instrument much more rapidly than in others.

A bougie of sufficient length to extend beyond the stricture, and so large, as to pass through it without force, should be chosen. The gum elastic and metallic instruments, answer when the stricture is within the reach of the finger, and notwithstanding the abuse which the latter have received, I must say that, I prefer them when the stricture is coupled with hemorrhoidal tumours; but neither will suit when the obstruction is high up, as they cannot be curved at the moment, so as to ensure their safe passage, and even if they could, their firmness would render them very dangerous. In such cases, wax bougies should be employed: *immediately before use, they ought to be

* White recommends the bougies to be made in the following manner:—

℞ Ceræ flavæ lb. 1¼
Adep. suillæ lb. iv. m. ft. cerat.

N.— In winter one part of wax will be sufficient to four of lard.

A long piece of lint, folded and tied at one end, is to be dipped in this oint-

immersed in hot water until they become pliant, then well oiled, and curved so as to correspond to the hollow of the sacrum, and lateral inflection of the sigmoid colon.

Previous to the introduction of the bougie, the bladder should be emptied, and the rectum washed out with warm water. The patient may either lie on his left side, lean over the back of a chair, or kneel on his bed, while an assistant separates his buttocks, and the surgeon takes the bougie in his right hand, and introduces it upwards and a little backwards, with the convexity towards the sacrum. If the stricture be more than five or six inches from the anus, he must turn the point of the instrument a little forwards, and to the left side, as in this way he will avoid the sacrum, and best enter the sigmoid flexure of the colon, should he desire it:—yet, to effect this last, it may occasionally be necessary to give the bougie an opposite direction, as the intestine frequently bends to the right side. In passing the bougie, too much care cannot be taken, all force should be avoided, and when it is suddenly checked in its

ment, and drawn through a wooden mould; when cold, it must be passed through another mould of less diameter; then to be re-dipped, and passed a third time. (Op. cit. p. 173.)

Salmon says, "The bougie is composed of fine linen cloth, heavily coated with wax, and a certain portion of diachylon plaister coloured with a small portion of lamp black." (Op. cit. p. 55.)

I have tried bougies prepared according to both methods, but much prefer those recommended by Mr. Salmon.

course, it ought to be withdrawn for a short distance, its direction varied, and then passed upwards again. I have examined several persons in whom the rectum was perfectly sound; yet they were considered by others to labour under stricture. Such mistakes arise from want of dexterity in passing instruments, and from an absence of that tact, which enables an experienced surgeon to discriminate between the resistance created by a fold of mucous membrane, and a contraction of the gut.

For a long time I was greatly dissatisfied with the bougies in common use; because by keeping the anus distended, they caused great pain. To obviate this difficulty, for some years past, I have used bougies three inches long, made of ebony, and mounted on a stalk of whale-bone. (See plate viii. fig. i.) An instrument of this kind is not only easily retained, but is introduced with great facility, by inserting the left fore-finger into the anus, pressing the whale-bone stalk a little forwards and to the left side, while with the right hand, it is urged steadily upwards. (See plate viii. fig. ii.)

Having observed that the pressure, as well as the presence of a bougie in the stricture, was absolutely necessary for the absorption of the effused lymph, I found that in some cases, though I rapidly increased the size of the instrument, but little irritation followed the operation; therefore it occurred to

me, that a bougie might be invented, which would dilate the stricture more rapidly, without the risk of lacerating the intestine. With this view, I designed the following instrument, which, however, is not suited to stricture high up in the intestine. (See plate ix. fig. v.) It consists of five parts. The first is a silver tube, five inches long, and three fourths of an inch in circumference, which at the middle splits into four equal parts. The second is a piece of ivory, three inches long, round, varying in circumference, from one and a half to three inches, conical at the extremities, divided longitudinally into four equal parts, each of which is connected with a division of the silver tube, and grooved on its angle: in two points an inch apart, the groove, for an extent varying according to the size of the instrument, from one half to three fourths of an inch, is deepened in a semilunar form, to within a line of the thickness of the instrument. The third part is a handle, three fourths of an inch long, half an inch broad, and a quarter of an inch thick, with a worm in it for the reception of the screw. The fourth is a piece of silver wire about a quarter of an inch in circumference, and eight inches long, which runs through the tube, and terminates at one end in a screw, about an inch long, and at the other end in eight semilunar plates, varying from one to three quarters of an inch in breadth, and within a line, as deep as each portion of the ivory is thick. These plates correspond to the pieces of ivory, and

fit into the deep portions of the grooves spoken of. The screw of course passes into the worm in the handle. The fifth and last part of the instrument, is a small ring which fits on the silver tube, and serves to keep the split portions *in situ.*

Now, by pulling back the ring, and then screwing the handle, the semilunar plates are retracted from their beds, and the four ivory pieces separated.

I have tried this instrument, in four cases, and have been able to effect as much dilitation in a fortnight, as in similar cases has cost me six weeks, or I may say two months. I must, however, caution those who may use it, to exercise great prudence, and rather consider it as a useful addition to the bougies heretofore described, than as the only one necessary to dilate strictures.

When fistulæ communicate with the bladder or vagina, we cannot interfere with them until the stricture is pretty well dilated; then, we may derive advantage in the first form of disease, from allowing a gum elastic catheter to remain introduced, and in the second, from the actual cautery. Should a fistula open by the side of the anus, and the stricture be low down, we may advantageously lay open both at the same time; but if this be impracticable, we should dilate the stricture with bougies in the first instance, and then operate on the fistula, if it does not heal.

To conclude this subject, I must say, that though I have ameliorated the condition of many a poor sufferer, I have never been fortunate enough to cure a single case; and I am inclined to think that those who speak of the frequency of their cures, without they possess means of which we are ignorant, have been deceived. To be brief, I know of no patient who was able to leave off the use of the bougie for any time, without an increase, or return of his complaint.

CHAPTER XXVI.

CARCINOMATOUS DEGENERATION OF THE RECTUM.

The rectum is not unfrequently the seat of cartilaginous, lardaceous, and encephaloid degenerations.

The cartilaginous disease may either commence in the form of hard tubercles on the mucous membrane, or in the muscular coat of the intestine, which is by far the most common,—the fibres become pale and firm, while the connecting cellular tissue undergoes a similar process of condensation, without any alteration of colour. As the deposition goes on, the cellular tissue frequently becomes lardaceous; but, however this may be, the walls of the bowel increase in thickness, and the cellular and muscular tunics are sooner or later confounded and softened. Sometimes the mucous membrane becomes studded with lardaceous and

encephaloid vegetations, while the serous coat presents cartilaginous tubercles.*

As I have just mentioned, the lardaceous transformations may be superadded to the cartilaginous; but I have seen two cases in which it was uncombined. In one of these, the muscular tunic and cellular tissue were thus transformed, while in the other, the mucous coat was studded with vegetations of this character. Finally, I have seen a case in which the muscular tunic and cellular tissue were lardaceous, while the mucous coat threw out encephaloid growths.

The encephaloid transformation is sometimes primary, commencing in the cellular tissue or mucous membrane; but more commonly it is the sequel of the cartilaginous or lardaceous degenerations.

As this sketch of the carcinomatous affections of the rectum, is drawn from the cases I have seen, it must be imperfect. Those whose observations have been more ample may add to it, a step which I dare not take, as the mass of cases on record were published before pathological anatomy was properly understood, and consequently could not aid me in such an undertaking.

* Ruysch thus describes a case of this kind: "Intestinum rectum in universum ita incrassatum deprehendi, ut pollicis crassitiem ferè superaret, et ita induratum, ut anceps hærerem, an carnosum an verò cartilaginosum esset dicendum. Cavitas quoque dicti intestini straminis latitudinem haud superabat, et quod notandum, tam firmiter erat connatum ossi sacro, ut cultelli cuspis ad separationem minimè sufficeret, sed cuneo ferreo malleoque ligneo eandem peragere coactus fuerim; imò, mirum dictu, cum summo labore ea disjunxi." Opera Omnia. Amstelodami. M.D.C.C.XXXVII. tome i., observatio XCV. p. 89.)

From the changes of structure above described, the cavity of the intestine is diminished, but this is not at all in proportion to the amount of disease, for the quantity of carcinomatous matter in any one part may not be great, though several inches of the intestine may be diseased. Indeed, it frequently happens that, though the bowel may have been considerably obstructed for some time, the softening down and separation of the projecting masses, again renders it pervious.

Any portion of the rectum may be first attacked; it most commonly, however, commences at its junction with the sigmoid flexure of the colon; then, immediately above the pouch, and lastly at the anus. (See plate vii. fig. ii.)

The adjacent organs are most commonly involved in disease. I have seen a case, in which the bladder was perforated, and two, where the recto-vaginal septum was extensively destroyed. When the finger is introduced, we may discover, firstly, that the intestine is firmer than usual, and a portion of its inner surface is covered with indurated tubercles; secondly, that it is hard and contracted for a considerable extent, and the mucous membrane studded with ulcers, more or less extensive, whose surface is unequal, granular or fungous, and surmounted with thick, hard, and everted edges; thirdly, that a firm cartilaginous ring, generally with an uneven surface, and so extensive as barely to admit the extremity of the finger, occupies its circumfer-

ence; fourthly, that a portion of its inner surface is rendered irregular, and its cavity lessened by soft fungous growths; and fifthly, that the disease is confined to its lower extremity, and a fungous is thrown out either from a part, or all the circumference of the anus.

The causes of this horrid malady are involved in great obscurity. Some authors have endeavoured to trace it to injury, or to inflammation acting perhaps on a constitution predisposed to cancer; but such conjectures are more plausible than useful.

Sometimes, the cartilaginous transformation will last for years, while, on the contrary, the encephaloid runs a rapid course, destroying the patient in a few months.

Those about or a little above the meredian of life, are most liable to this disease. No age, however, is exempt from it. I have seen the encephaloid transformation in a boy twelve years old, and the lardaceous in a female of twenty-three.

From an examination of published cases, I find that women are most commonly its victims, and especially those who have recently ceased to menstruate. May not this arise from engorgement of the rectum, produced by the more frequent retention of the feces, and the suppression of the uterine flux?

When a patient is affected with this disease, he suffers a burning pain in the rectum, which shoots through the pelvis. He is also tormented with

weight in the back, aching above the pubes, numbness of the thighs, and painful retraction of the anus. His stools are frequent, difficult, painful, scanty, slimy, dark coloured, and mixed with blood and matter of an ichorous quality. In some instances, however, they are figured or composed of small pellets, and occasionally they are liquid, abundant, and accompanied with dreadful tenesmus. He, moreover, labours under abdominal pain and distension, eructions, hiccough, nausea, and severe vesical irritation. Frequently, he cannot sit, and in some instances is unable to walk, only obtaining relief in the recumbent position. He loses his flesh and strength; the ichorous discharge increases, and runs out when he coughs, or even when he stands erect. There is occasionally considerable hemorrhage, and he becomes sallow or leaden coloured, œdematous, and sinks under continued suffering. Sometimes, however, when the disease is of a fungoid character, he may die from obstruction.

The excessive shooting pain through the pelvis, the sallow or leaden colour of the face, and the havoc made by the disease in the advanced state, enables us to distinguish it from stricture. It must be confessed, however, that unless it commences in the form of indurated tubercles or irregular fungoid growths, the diagnosis is not easy in the commencement.

In the treatment of this dreadful malady, we

must endeavour to keep the bowels easy with castor oil or mild enemata. With a view to mitigate pain, we may administer cicuta or hyoscyamus, or we may use suppositories of opium. Sometimes the application of a few leeches will afford relief. The hip-bath is very soothing, and can be used at any stage of the disease, without the patient be very much exhausted. We should, of course, enjoin the horizontal position, and a light nourishing diet.

When the disease is confined to the extremity of the bowel, and does not extend upwards beyond two and a half or three inches, provided the general health be good, we may, if the patient desires it, remove the affected parts, though, I would much rather avoid any such proceeding; for the return of the disease will be more than probable. Four years ago, I performed this operation on a man, in whom the cancerous transformation seemed confined to an inch and a half of the intestine, and in all probability commenced at the verge of the anus. I made an elliptical incision around the anus, with the extremities pointing, one forwards, and the other backwards, and by prosecuting the dissection inwards and upwards removed, without the least difficulty, the diseased extremity of the bowel. I found Museux's forceps very useful in bearing off the intestine during the dissection, and as I thought it all-important to see my way clearly, I secured the arteries, six or eight in number, as they

were divided. The wound healed rapidly, and his general health improved; but there was a slight prolapsus of the bowel, which, however, was completely supported by prepared sponge, covered with oiled silk, and an elastic bandage. When the feces were liquid, he could not retain them; but when solid, he was generally able to anticipate their discharge, very little being expelled at each time. This man continued well for a few months, and returned to the country, but died, as I have been informed by his wife, of what she called consumption, seven months after the operation.*

Before I close this chapter, I think I ought to transcribe from Cayol's work, his description of a form of disease, which he says may be confounded with cancer of the rectum.

"Les environs de l'anus sont sujets à un engorgement lymphatique de même nature que celui qui donne aux membres ou à d'autres parties du corps ce volume énorme et ces formes extraordinaires qu'on observe quelquefois dans *l'éléphantiasis des Arabes.*

"Cette espèce d' engorgement a une telle ressemblance avec le squirre du rectum, qu'il n'est pas surprenant qu'elle n'en ait jamais été distinguée.

"L'une et l'autre maladies paraissent déterminées par les mêmes causes, savoir, par les hémorroïdes, les dartres, la siphilis, etc.

* Lisfranc was the first who performed this operation: he has repeated it many times, as well as other surgeons.

"Leurs effets sont de rétrécir progressivement l'anus, en y faisant naître un gonflement dur, qui forme tantôt un bourrelet circulaire, et tantôt plusieurs tumeurs inégales, saillantes à l'intérieur du rectum: irritées continuellement par les matières fécales, ces tumeurs s'ulcèrent, et deviennent excessivement douloureuses, soit qu'elles proviennent d'un engorgement lympathique, ou d'un véritable squirre.

"Les accidens qui résultent de la rétention des matières fécales, sont les mêmes dans les deux cas, et finissent par faire périr les malades, lorsqu'on ne parvient point à y remédier.

"Voici maintenant en quoi l'engorgement lymphatique diffère du squirre:

"Lorsqu'on dilate graduellement l'anus, au moyen d'une mèche de charpie, qu'on rend de jour en jour plus épaisse, on voit les tumeurs et le bourrelet formés par l'engorgement lymphatique diminuer peu à peu de volume et de consistance, jusqu'au point de devenir, avec le tems, tout-à-fait flasques. Le squirre, au contraire, ne paraît pas susceptible de ces heureux changemens: on peut, tout au plus, à l'aide d'une compression graduée, le repousser un peu du centre à la circonférence, et l'enfoncer, pour ainsi dire, dans le tissu cellulaire des environs; mais son volume et sa dureté restent les mêmes.

"L'engorgement lymphatique ne détermine jamais les symptômes de la cachexie cancéreuse; et

lors même qu'il a acquis un très-grand volume, les malades conservent encore de l'embonpoint et de la fraîcheur, à moins qu'ils n'aient été épuisés par les souffrances que détermine la rétention des matières fécales.

"On remarque de plus, et c'est là un des principaux caractères de cette espèce d'engorgement, qu'il s'y manifeste, de tems à autre, une irritation particulière, accompagnée de gonflement, de douleurs vives, et quelquefois de fièvre. Ces sortes de crises douloureuses sont attribuées par les malades tantôt aux hémorroïdes, et tantôt à d'autres causes: elles n'ont rien de régulier quant à leur retour et à leur durée, qui est ordinairement de plusieurs jours. Tandis qu'elles ont lieu, la compression sur l'anus est souvent douloureuse et insupportable: lorsqu'elles sont apaisées, on retrouve les tumeurs tout aussi indolentes qu'auparavant, mais sensiblement augmentées de volume; d'où il résulte que plus les crises douloureuses se renouvellent, plus l'engorgement devient dur et volumineux.

"Au reste, ces symptômes ne sont pas toujours très-prononcés; et vraisemblablement ils n'auraient jamais suffi pour faire distinguer l'engorgement lymphatique d'avec le squirre du rectum, si l'on n'avait observé ce même engorgement dans d'autres parties où ses caractères sont bien plus faciles à saisir.

"C'est à M. Alard, docteur en médecine de la Faculté de Paris, que la science est redevable de

notions exactes sur cet engorgement particulier du tissu cellulaire qui constitue *l'éléphantiasis des Arabes*, maladie qui n'attaque pas seulement les membres, comme on l'avait toujours cru, mais encore le visage et d'autres parties de la surface du corps. *(Histoire de l'Eléphantiasis des Arabes.* Paris, 1809; et *Nouvelles Observations sur l'Eléphantiasis des Arabes*, Paris, 1811.*)*

"Mais l'auteur de ces deux excellens ouvrages n'avait point vu la maladie dont il s'agit fixée dans le pourtour de l'anus, où l'un de nous (M. Bayle) l'a, le premier, reconnue.

"Soumis à la dissection, l'engorgement lymphatique du tissu cellulaire ne présente rien de semblable au squirre. Dans quelque endroit qu'on l'incise, on n'y découvre point de matière *squirreuse* ni de matière *cérébriform*, mais seulement une sorte d'œdème très-dur, un tissu aréolaire rempli d'un liquide incolore qu'on en fait sortir quelquefois, du moins en partie, à l'aide d'une forte pression. L'engorgement n'est presque jamais circonscrit à la marge de l'anus; il se continue ordinairement plus ou moins dans le tissu cellulaire des fesses, où il se termine d'une manière insensible: ce dernier caractère peut servir, dans quelques cas, à le faire reconnaître pendant la vie.

"Voilà donc une maladie essentiellement différente du squirre, et par la structure de la dégénération organique, et par ses effets consécutifs sur l'économie animale. Elle mérite d'autant plus d'en

être distinguée, qu'elle est susceptible de guérison, et que, dans les cas les plus malheureux, il est presque toujours possible de la pallier de telle manière qu'elle n'abrège pas la durée de la vie. C'est à cette maladie que se rapportent évidemment les *squirrosités du rectum* guéries par Desault, au moyen de la compression."*

As I have never seen the affection now described, I do not feel qualified to offer any remarks on it; however, I must confess that I cannot discover in Desault's account of *squirrosités du rectum*, any thing to lead to the conclusion drawn by Cayol.

* Clinique Médicale, suivie, d'un Traité des Maladies Cancéreuses, p. 418. Paris, 1833.

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